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# BRITISH ENCYCLOPEDIA

IN ELEVEN VOLUMES

THE FIRST VOLUME

OF THE  
ARTS, MANUFACTURES, AND  
MISCELLANEOUS ARTS

BY  
JOHN GORTON, ESQ.  
OF THE  
MIDDLE TEMPLE, ESQ.  
OF THE  
MIDDLE TEMPLE, ESQ.

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THE  
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OF THE  
MIDDLE TEMPLE, ESQ.







ILLUSTRATIONS  
OF  
BRITISH ENTOMOLOGY;  
OR, A  
Synopsis of Indigenous Insects:

CONTAINING  
THEIR GENERIC AND SPECIFIC DISTINCTIONS;  
WITH  
AN ACCOUNT OF THEIR METAMORPHOSES, TIMES OF  
APPEARANCE, LOCALITIES, FOOD, AND ECONOMY,  
AS FAR AS PRACTICABLE.

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BY JAMES FRANCIS STEPHENS, F.L. AND Z.S.

V. PRESIDENT OF THE ENTOMOLOGICAL SOCIETY OF LONDON, ETC.

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EMBELLISHED WITH COLOURED FIGURES OF THE RARER AND  
MORE INTERESTING SPECIES.

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MANDIBULATA.  
VOL. VII.

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“In his tam parvis tamque ferè nullis quæ ratio! quanta vis! quam inextricabilis perfectio!”—*Plin.*

“Finis Creationis Telluris est gloria DEI, ex opera Naturæ, per Hominem solum.”—*Linné.*

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# ILLUSTRATIONS OF BRITISH ENTOMOLOGY.

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## ORDER VI.—HYMENOPTERA.

Wings four, rarely wanting, all membranaceous and naked, generally with distinct ample unequal areolets, anterior largest, mostly with a conspicuous *stigma* on the costa; posterior small, with few nervures; *ocelli* two or three; *mouth* various; *palpi* four; *mandibles* exerted, horny, rarely employed for mastication; *prothorax* obsolete, giving place to an ample collar; *abdomen* various, consisting of from 6 to 9 segments, and, in the females, furnished at the apex with an *ovipositor* of 5-6 valves, or a sharp *sting*, having in many instances a poison bag at its base, and two short compressed styles; *tarsi* generally pentamerous, or 5-jointed. Metamorphosis incomplete: *larva* in some cases furnished with 6 unguiculated legs, and with from 0 to 12 membranaceous ones, and with two simple eyes; in others without legs and vermiform; *pupa* quiescent, folliculated, with the antennæ, legs, and wings distinct, and resembling the imago.

Next to the Coleoptera this order appears to be the most numerous in species; in fact, from the very great accession to their numbers which the investigations of some entomologists in this country have brought to light, it has been supposed to be more extensive; but the number of Coleoptera have been silently increasing at the same time, though it must not be disputed that amongst the parasitic groups, discoveries of new species are almost daily taking place: the order is considerably diversified in habit, and embraces in its extensive grasp some of the most useful and valuable insects, as more particularly referred to hereafter. From the extent of the order it becomes necessary to subdivide it into sections. I shall therefore proceed nearly in conformity with the divisions adopted by Latreille, with the alterations as pointed out in my Systematic Catalogue, commencing with—

### SECTION I.—TEREBRANTIA, *Latreille*,

In which the females are furnished with a laminated, or filiform, ovipositor;  
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in a few resembling a sting, and valvular; vagina bivalve, received in a canal at the lower apex of the body, the valves compressed; in some lamelliform, in others elongate-cylindric, setaceous, filiform.

These insects, as also proposed by Latreille, may be further subdivided into—

A. *Abdomen* united to the thorax, along its whole breadth, without any distinct peduncle: and

B. *Abdomen* united to the thorax by a distinct peduncle.

The subdivision A. embraces two families, viz.—

### FAMILY I.—TENTHRIDINIDÆ, *Leach*.

*Wings* with the marginal areolets complete: mandibles more or less long, terminated with teeth: *labium* with three laminæ: *maxillary palpi* with 6 joints, labial with 4: *ovipositor* composed of two serrated leaves, rarely exserted: *antennæ* various.

The insects of which this interesting family—which is rather extensive—is composed vary considerably in habit amongst themselves; I shall, therefore, in order to facilitate their investigation, subdivide them into the groups proposed by Leach, in the 3rd vol. of the Zoological Miscellany, abridging the external characters there given, as they appear well calculated to disunite the various groups into which they seem naturally divisible. A considerable variation exists in the number of legs of the larvæ—some possessing only the 6 true legs, while others have from 2 to 18 prolegs: in the early stage many of them are armed throughout their body with spines, while others are destitute of armature: in general, they resemble the larvæ of Lepidoptera, being fleshy, but gradually taper from the head, which is distinct and scaly; they curl up when disturbed, and feed upon living vegetable substances, some few forming galls: again, some species are gregarious, and others solitary.

The females are furnished with a serrated ovipositor, which they employ in forming chinks, wherein to deposit their eggs—thence called *Saw-flies*. The following are the British genera:—

*Labrum* distinctum,

*Antennæ* breves, clavatæ, 5-8 articulatæ.

*Calcaria* obtusa, apice antlio instructa.

*Antennæ* articulis ante clavam 5;

clava subsolida 2-articulata:

3-articulata:

articulis ante clavam 4;

. . . 1. CIMBEX.

. . . 2. TRICHIOSOMA.



- clava* distinctè articulata ;
- articulis 1 : . . . 3. CLAVELLARIA.  
 2 : . . . 4. ZARÆA.  
 3 : . . . 5. ABIA.
- Calcaria* acuminata, simplicia : . . . 6. AMASIS.
- Antennæ* mediocres ; (maris ciliatæ aut furcatæ.)
- Alæ* anticæ areola marginali ramulum emittente : . 7. HYLOTOMA.  
 terminali : . 8. SCHIZOCERUS.
- Antennæ* mediocres, multiarticulatæ, pectinatæ aut serratæ : 9. LOPHYRUS.  
 haud pectinatæ, aut serratæ.
- Tibiæ* 4-posticæ calcaribus 2-bus instructæ : . 27. TARPA.  
 3-bus instructæ : . 28. LYDA.
- Antennæ* 9-articulatæ ; *corpus* breve.
- Areolæ* 1 marginali, 3 submarginales subæquales : . 10. CLADIUS.  
 2nda parva : . 11. PRISTIPHORA.  
 4 submarginales.
- Tarsi* omnes simplices : . 12. NEMATUS.  
 postici artº. 1-mº elongato compressissimo : . 13. CRÆSUS.
- Areolæ* 2 marginales ; *corpus* mediocre aut elongatum.
- Areolæ* 4 submarginales.
- Antennæ* artº. 3-tio 4-to longiore : . 20. ALLANTUS.  
 3-tio et 4-to æqualibus : . 21. TENTHREDO.
- 3 submarginales ; prima brevissima :
- Antennæ* artº. 3-tio 4-to longiore : . 22. DOSYTHEUS.  
 3-tio et 4-to æqualibus : . 23. DOLERUS.
- 3 submarginales prima 2-da non brevior ;
- Antennæ* artº. 3-tio 4-to longiore : . 26. MELICERTA.  
 3-tio et 4-to æqualibus : . 24. EMPHYTUS.
- Antennæ* 9-10 articulatæ, medio crassiores, artº. 3-tio 4-to longiore.
- Areolæ* 4 submarginales, 1 marginali : *antennæ* 9-artº. . 14. MESSA.  
 2 marginales ;
- Antennæ* 10-articulatæ : . 16. ATHALIA.  
 9-articulatæ breves ;
- Alæ* hyalinæ, tenues : . 17. SELANDRIA.  
 obscuræ, incrassatæ : . 18. SCIAPTERYX.
- Antennæ* 9-articulatæ elongatæ, tenues : . 19. HEMICHROA.
- 3 submarginales, 2 marginales : *antennæ* 9 artº : . 15. FENUSA.
- Antennæ* 11-13 articulatæ : . 25. HETERARTHURUS.
- Labrum* obsoletum.
- Antennæ* subclavatæ : . 29. CEPHUS.  
 setacæ : . 30. JANUS.

In accordance with the principles before alluded to, I shall proceed to describe the insects included by Leach in

- § 1. *Antennæ* short and clavate, with the third joint the longest ; *anterior wings* with 3 marginal and 2 submarginal arcolelets.



GENUS I.—CIMBEX, *Olivier.*

*Antennæ* clavate-capitate, 7-jointed, basal joint robust, 2nd minute, 3rd very long and slender, 4th and 5th clavate-truncate, equal in length, 6th and 7th coalescing, and forming an oblong ovate club: *head* as broad as the thorax: *ocelli* 3: *mandibles* irregularly 3-dentate: *body* robust, obscurely villose: *wings* ample, anterior with 2 marginal and 3 submarginal areolets, the 1st of the latter receiving 2 recurrent nervures: *abdomen* cylindric in the males, with the 1st segment deeply notched above, and having a membrane in the emargination; ovate in the females: 4 posterior *femora* unarmed, thickened in the males; *tibiæ* with 2 obtuse *spurs* at the apex.

*Cimbex* differs from the cognate genera, not only in the structure of its antennæ, but from having the labrum comparatively smaller, the body less pilose, furnished with a large membrane at the base in the males, and in which sex the 4 hinder femora are very much incrassated and curved; the anterior tarsi with spiny processes beneath, &c. The larvæ form a strong oval cocoon, in which they change to pupa; they appear very difficult to rear, as I have experienced, having taken many; but when found in the pupa state, they have frequently produced the imago: in general, the species are very rare.

Sp. 1. *femorata*. *Violascente-nigra, subpubescentia, antennis luteis basi fuscis, tarsis membranâque abdominali luteis, femoribus tibiisque cyaneo-atris, alis hyalinis apice areolâque costali 2dâ antice fuscescentibus.* (Long. corp. 11—13½ lin.; Exp. Alar. 20—25 lin.)

Ten. *femorata*. *Linné.*—Ci. *femorata*. *Steph. Catal.* 323. No. 3734.

Slightly pubescent; violet-black, the head and thorax of a deeper and less violet tint; antennæ luteous, with the base fuscous or black; abdomen with its basal membrane luteous; femora and tibiæ of a blue-black; tarsi luteous or testaceous; wings hyaline, with the apex and second costal areolet anteriorly fuscescent.

The male in this (as in the other species of the genus) has the abdomen less robust, with the two posterior femora elongated and thickened.

One of my specimens has the three intermediate joints of the abdomen above dull ferruginous, and another the apex pitchy.

Extremely rare in England: it occurs near Windsor, and in Darenth wood, towards the end of June.

Sp. 2. *varians*. *Nigra, antennis tarsis membranâque abdominali luteis, alis hyalinis, apice areolâque submarginali secundâ fuscis.* (Long. corp. 7—11½ lin.; Exp. Alar. 15—20 lin.)

Ci. *varians*. *Leach.*—*Steph. Catal.* 324. No. 3735.



Head, thorax, and abdomen black; legs the same; tarsi, antennæ, and basal membrane of the abdomen luteous; wings hyaline, with the apex and second submarginal areolet fuscous.

Extremely variable: some examples have the sides of the 3rd to the 6th segments luteous or yellow, or a portion of the segments edged with, or entirely luteous, or occasionally ferruginous. In some the tibiæ are black, in others luteous or pale fuscous, and the claws in some rare instances ferruginous; the coloured apex to the wings varies in intensity. These varieties occur in both sexes.

Not very abundant: found at Darenth and Coombe woods: in this last locality I once captured nearly twenty specimens one morning early in June. It has been found in Scotland.

Sp. 3. *pallida*. *Fusco-lutea, thorace pectoreque nigricantibus, abdomine pallide luteo incisuris atris, antennis pedibusque pallide luteis, alis hyalinis apice areolâque costali secundâ fuscis.* (Long. corp.  $6\frac{1}{2}$  lin.; Exp. Alar. 17 lin.)

Ci. *pallida*. *Steph. Catal.* 324. No. 3736.

Dusky-luteous, with the thorax and breast blackish; abdomen pale luteous, with the base of the segments black, antennæ and legs pale luteous; wings hyaline, with the costa, the second areolet anteriorly and the apex deep fuscous.

This insect resembles the foregoing in its wings, and Ci. *Griffinii* in the colour of the abdomen and legs: it may be a very extraordinary variety of Ci. *varians*.

Taken in June near Colney-hatch at Hollick wood.

†Sp. 4. *decemmaculata*. *Violascente-nigra, antennis tarsis et membranâ abdominali luteis, abdomine segmentis 3—7 utrinque maculâ (intermediis 6 majoribus) flavâ.* (Long. corp. 10—11 lin.; Exp. Alar. 21—23½ lin.)

Ci. *decemmaculata*. *Leach.—Curtis, v. i. pl. 41.—Steph. Catal.* 324. No. 3737.

Violet-black; head, thorax, and abdomen beneath black; antennæ, abdominal membrane, and tarsi luteous; abdomen above with a yellow spot on each side of the 3rd to the 7th segments, the six intermediate ones being largest; wings of a slightly tawny hue, with the apex and second marginal areolet darker.

Found near Windsor, but very rare.

Sp. 5. *Griffinii*. *Lutea, pectore saturatiore, abdomine flavo segmentorum interstitiis nigris, alis subfulvescentibus, areolâ secundâ costali saturatiore.* (Long. corp. 11 lin.; Exp. Alar. 18—21 lin.)

Ci. *Griffinii*. *Leach.—Steph. Catal.* 324. No. 3738.—Te. *lutea*. *Donovan, Brit. Ins. v. vi. pl. 324 ♂.*

Luteous; breast, and sometimes the base of the abdomen slightly, darker or fuscous; abdomen yellow, with the interstices (or base) of the segments black, and with a dorsal line composed of ferruginous, or fuscous dots;



wings slightly fulvescent, with the second costal areolet and the apex darker or slightly fuscous.

Taken in the fens in the vicinity of Cambridge and Whittlesea; at times in great abundance, in June: also found near Norwich.

Sp. 6. annulata. *Lutea, abdomine flavo, thorace disco pectore abdominisque segmentis duabus piceis tertioque maculâ subviolascente-fuscis, femoribus violascente-luteis; alis hyalinis apice fuscis.* (Long. corp. 10—11 lin.; Exp. Alar. 20—23 lin.)

Ci. annulata. *Leach.*—*Steph. Catal.* 324. No. 3739.

Luteous; abdomen dull yellow, with a dorsal row of rusty dots, its base, or rather the first two segments and a spot on the third, with the disc of the thorax and the breast, of a violaceous-brown; femora of a violaceous-luteous; wings hyaline, sometimes a little fulvescent, with the second costal areolet darker, and the apex slightly fuscous.

Taken near Windsor, and in the marshes about Cambridge; also in Devonshire, in June and July.—Probably a variety of *C. Griffinii*.

†Sp. 7. maculata. *Fusco-testacea æneo-nitens, capite antennis, tibiis tarsisque luteis, abdomine flavo, segmentis tribus primis dorsalibus violascente-fuscis, 3-tio maculâ utrinque flavâ, 4-to maculâ dorsali fusco-violaceâ.* (Long. corp. 10—12½ lin.; Exp. Alar. 21—24 lin.)

Cra. maculata. *Fourcroy.*—Ci. maculata. *Steph. Catal.* 324. No. 3740.

Testaceous-brown, with a brassy tint; head, antennæ, tibiæ, and tarsi, dull luteous; abdomen yellow, with the three basal segments on the back violaceous- or brassy-brown, and a spot of the same on the 4th; the 3rd with a yellow or luteous spot on each side; wings hyaline, with the costa and the second areolet darker, the nervures testaceous-brown.

Scarce: found at Darenth wood.

†Sp. 8. humeralis. *Nigra, antennis pedibusque luteis, fronte thoracis angulis anticis abdomineque flavis; hoc supernè segmentis 1, 2, et 4 fuscis, externè maculâ flavâ notatis, aliis medio maculâ fuscâ, alis hyalinis anticè fulvescentibus, fusco variis.* (Long. corp. 9¾ lin.; Exp. Alar. 17½ lin.)

Cra. humeralis. *Fourcroy.*—Ci. humeralis. *Steph. Catal.* 324. No. 3741.

Black; head, scutellum and pleuræ rusty-luteous; antennæ and legs luteous, the four posterior femora black in front: the forehead, anterior angles of the thorax and abdomen yellow; the latter with the 1st, 2nd, and 4th segments fuscous, with a yellow spot externally, the remainder with a fuscous spot on the back; wings hyaline, with the costa fulvescent, and the apex clouded with fuscous.

Very rare: found near Salisbury.

## GENUS II.—TRICHIOSOMA, *Leach.*

*Antennæ* slender, clavate-capitate, 8-jointed, basal joint robust and rounded,



pilose, 2nd minute, 3rd nearly half the length of the antennæ, very slender, 2 next stouter and shorter, equal in length with each other, 6th obconic, forming part of the club, the latter completed by 2 coalesced joints: *head* scarcely so wide as the thorax: ocelli 3: *mandibles* generally bidentate: *wings* as in *Cimbex*: *body* robust, villose: *abdomen* cylindric and elongate in the males, slightly notched above at the base, ovate and depressed in the females: 4 posterior *femora* thickened and dentate within in the males; *tibiæ* furnished with a pair of obtuse *spurs*.

The more densely pilose body of the insects of this genus, combined with the greater slenderness of the antennæ, which, as pointed out by Mr. Curtis, are punctured, as well as the larger labrum, the dentate thickened posterior femora of the males, the simplicity of the tarsi, &c. sufficiently indicate their distinction from *Cimbex*: in metamorphosis they, however, resemble the insects of that genus, but they appear in the imago still earlier in the year.

Sp. 1. *sylvaticum*. *Subæneo-atrum, abdomine nigro-æneo subtus sordidè luteo fusco marginato, femoribus cyaneo-atris, tibiis tarsisque luteis*. (Long. corp. 8 lin.; Exp. Alar. 16—18 lin.)

Tr. *sylvaticum*. *Leach.—Steph. Catal. 324. No. 3742.*

Of a deep brassy black; abdomen above with an ashy pile, beneath dull luteous, margined with fuscous; femora blue-black; tibiæ and tarsi luteous; wings hyaline, slightly fulvescent, with the apex more or less fuscous; mandibles red at the tip, with obsolete teeth; antennæ brassy-black; labrum pentagonal.

The sides of the abdomen are sometimes edged with luteous-red, in addition to the pale under surface.

Not common: taken occasionally at Darenth wood and near Edinburgh.

Sp. 2. *laterale*. *Nigro-æneum, capite saturatiore, antennis nigris, femoribus cyaneo-atris, tibiis tarsis ventre lateribusque abdominis luteis*. (Long. corp. 10—12 lin.; Exp. Alar. 18—22 lin.)

Ti. *laterale*. *Leach.—Curtis, v. i. pl. 49.—Steph. Catal. 324. No. 3743.*

Brassy-black: head deepest; antennæ black; abdomen with a slightly ferruginous pile, its under surface and sides luteous-red; femora blue-black; tibiæ and tarsi luteous; wings somewhat fulvescent, with the apex more or less fuscous; mandibles deep black, with the apex pitchy; labrum with the angles rounded.

Also found at Darenth wood, more abundantly than the last; and occasionally at Coombe wood, in April and May.

Sp. 3. *Latreillii*. *Æneo-nigrum, capite antennisque nigris, abdomine supra purpurascente-nigro, femoribus violascentibus, tibiis tarsisque luteis*. (Long. corp. 9—11 lin.; Exp. Alar. 18—20 lin.)



Tr. Latreilli. *Leach, Zool. Misc. v. iii. 110.*—*Steph. Nomen. 2d edit. Appendix.* Brassy-black, with a ferruginous pile; head and antennæ black; abdomen purplish-black; femora slightly violet; tibiæ and tarsi luteous; wings hyaline, fulvescent, with the apex fuscous; labrum of the male nearly rounded.

The two joints preceding the club of the antennæ are sometimes ferruginous.

In the late Mr. Haworth's collection was an example of this species; and I obtained one from that of Mr. Bainbridge; probably taken near London.

Sp. 4. Lucorum. *Nigrum, thorace æneo-nigro, femoribus cyaneo-atris, tibiis tarsisque luteis, labro ♂ magno.* (Long. corp. 6—10 lin.; Exp. Alar. 15—18 $\frac{1}{4}$  lin.)

Te. Lucorum. *Linné.*—Te. Vitellinæ. *Donovan, v. iii. pl. 88. f. 3.*—Tr. Lucorum. *Steph. Catal. 324. No. 3744.*

Black; thorax rather brassy, clothed with a fine reddish-ash pubescence; femora dull blue-black; tibiæ and tarsi luteous; wings hyaline, with the apex slightly fuscous; labrum of the male large and rounded, of the female small.

The tibiæ are sometimes slightly fuscous.

Very abundant on whitethorn hedges within the metropolitan district, appearing towards the beginning of May.

Sp. 5. tibiale. *Subæneo-nigrum, capite atro, femoribus tibiisque cyaneo-nigris, tarsis luteis, abdominis basi pubescentiâ cinereo-rufâ vestito.* (Long. corp. 7—9 lin.; Exp. Alar. 16—18 lin.)

T. tibiale. *Steph. Catal. 324. No. 3745.*

Of a somewhat brassy-black; head deep black; abdomen clothed at the base with a dense ashy-red pubescence; femora and tibiæ bluish-black; tarsi pale luteous; wings hyaline, sometimes slightly fulvescent, with the apex fuscous.

Found, not uncommonly, at Darenth wood, in May.

Sp. 6. Scalesii. *Æneo-nigrum, capite atro, femoribus purpureo-violascentibus, tibiis tarsisque luteis; mandibulis ♂ parvis.* (Long. corp. 5 $\frac{1}{2}$ —7 $\frac{1}{2}$  lin.; Exp. Alar. 12 $\frac{1}{2}$ —15 lin.)

Tr. Scalesii. *Leach.*—*Steph. Catal. 324. No. 3746.*

Brassy-black, clothed with a ferruginous pile, which is deepest on the thorax and base of the abdomen; head deep black; femora purplish-violet; tibiæ and tarsi luteous; mandibles small in the male, bidentate, with the apex reddish; labrum rounded in front, minute in the female.

Taken at Coombe and Darenth woods in May; not common.

Sp. 7. unidentatum. *Nigrum, capite, thorace abdominisque basi ferrugineis densè villosis, femoribus violascentibus, tibiis tarsisque luteis, mandibulis rufis unidentatis.* (Long. corp. 7 lin.; Exp. Alar. 14—15 lin.)



Tr. unidentatum. *Leach.—Steph. Catal. 324. No. 3747.*

Black: head, thorax, and base of the abdomen clothed with a dense ferruginous pubescence; femora violet; tibiæ and tarsi luteous; wings slightly fulvescent, with the apex fuscous; mandibles red, unidentate.

Found (but rarely) at Coombe wood.

Sp. 8. pusillum. *Obscure æneo-nigrum, capite pallidiore, femoribus cyaneo-nigris, tibiis tarsisque fusco-luteis, mandibulis piceis.* (Long. corp. 4 lin.; Exp. Alar. 10—11 lin.)

Tr. pusillum. *Steph. Catal. 325. No. 3748.*

Dull brassy-black: head and thorax clothed with a pale griseous pubescence; abdomen nearly glabrous; antennæ deep black; head dull black; femora bright blue-black; tibiæ and tarsi dirty-luteous; mandibles pitchy-red at the apex, strongly bidentate; wings of a dull yellowish-brown, with the apex a little darker.

Found in the vicinity of London, but not common.

Sp. 9. biverrucatum. *Ater, griseo-villosum, femoribus cyaneo-nigris, tibiis tarsisque luteis, antennarum medio ferrugineo; abdominis apice verrucis duabus luteo-rufis.* (Long. corp. 6—7½ lin.; Exp. Alar. 12—13 lin.)

Tr. biverrucatum. *Steph. Nomen. 2d edit. Appendix.*

Deep black, rather opaque, and [densely clothed with a griseous pubescence; femora blue-black; tibiæ and tarsi dull luteous; antennæ pitchy-black, ferruginous in the middle; abdomen very slender in the male, and but slightly dilated in the female, its apex in both sexes furnished with two exserted luteous-red tubercles.

Taken near Teignmouth in Devonshire.

### GENUS III.—CLAVELLARIA, *Leach.*

*Antennæ* 5-jointed, shortest in the females; basal joint robust, 2nd transverse, 3rd very long and slender, 4th short, 5th forming a club as long as the 3rd, and punctured: *labrum* large; *mandibles* dentate, long in the males: *head* nearly as wide as the thorax: *eyes* not approximating: *ocelli* 3: *wings* as in *Cimex*: *body* slightly villose: *abdomen* linear in the males, with the basal joint slightly emarginate, a little dilated towards the apex, and depressed on the back in the females: *legs* rather short; 4 posterior *femora* unarmed, thickened in the males; *tibiæ* furnished with obtuse spurs at the apex.

The 5-jointed antennæ of the insects of this genus, exclusively of the difference in the trophi, the slightly emarginated abdomen, the base of which is not furnished with a membrane, the simple hinder femora, extraordinary length of the mandibles of the males, longer labrum, &c. sufficiently point out its distinction from the two preceding, with which it is generally included: the difference of habit alone seems to call for a separation, setting aside the differences above



alluded to; the sexes (if such they be) being very dissimilar to each other.

Sp. 1. Amerinæ. *Nigra cinereo-pubescent, labro clypeoque albidis, antennis articulo ultimo tibiis tarsis ventre anoque ferrugineo-testaceis.* (Long. corp. 9—9½ lin.; Exp. Alar. 14—15 lin.)

Te. Amerinæ. *Linné.*—Cl. Amerinæ. *Steph. Catal.* 325. No. 3749.

Black, with an ashy pubescence; labrum and clypeus whitish, the former strongly cordate, with the base much rounded; antennæ ferruginous at the apex; abdomen the same beneath, its apex and two last segments above more luteous; legs rusty-testaceous, with the femora black; wings hyaline, with the second areolet and the apex brownish.

I have never seen the female (unless, as I strongly suspect, the following insect be it); but, according to Olivier, it differs in having nearly the entire upper part of the abdomen entirely testaceous, and the femora blue-back.

The larva feeds on the willow.

Of this very rare insect the only examples I have seen were captured near Windsor; one being in the British Museum, the other in my own collection.

Sp. 2. marginata. *Nigra, antennis apice tibiis tarsisque luteis, abdomine segmentis posticis margine ventris fasciis et margine labroque albis.* (Long. corp. 8—10 lin.; Exp. Alar. 15—18 lin.)

Te. marginata. *Linné.*—Cl. marginata. *Curtis, v. ii. pl.* 93.—*Steph. Catal.* 325. No. 3750.

Black; head and thorax with a slight ashy pile; antennæ with the apex ferruginous; labrum and anterior portion of the clypeus whitish; abdomen somewhat glabrous, the two basal segments entirely black, the remainder with broad whitish margins, of which the first two, on the 3rd and 4th segments, are interrupted; all the segments beneath also margined with yellow-white; apex ferruginous; legs black, with luteo-testaceous tibiæ and tarsi; wings hyaline, with the second costal areolet and the apex fuscescent.

Of this (which I suspect to be the female of the preceding), the specimens in the British Museum and my own collection are the only examples I have seen: they were taken near Windsor.

#### GENUS IV.—ZARÆA, *Leach.*

*Antennæ* 6-jointed, short, two basal joints transverse, 3rd long, slender, a little curved, 4th short, rather stouter, 5th and 6th forming a club, with an obtuse apex: *maxillary palpi* composed of 6 unequal joints, the first three being short, the others more or less elongated: *head* small, much narrower than the *thorax*: *eyes* united behind in the male: *ocelli* 3: *wings* as in *Cimbex*: *body* glabrous: *abdomen* cylindric in the males, ovate in the females; the



basal segment not emarginated: *legs* slender; femora not incrassated in the males; *tibiæ* armed with 2 obtuse spurs at the apex.

The 6-jointed antennæ of *Zaræa* distinguish this genus from the other genera of this group, and from all the preceding the dissimilarity in the proportions of the basal and terminal joints of the palpi, also serve to remove it, as do likewise the fasciated wings, small head, having the eyes approximating behind in the males, and other differences in the trophi.

Sp. 1. *fasciata*. *Æneo-atra, tibiis tarsisque luteis, alis anticis fasciâ fuscâ; abdominis ♀ basi albido.* (Long. corp. 5—6 lin.; Exp. Alar. 10—11½ lin.)

Te. *fasciata*. Linné.—Za. *fasciata*. Curtis, v. ii. pl. 97.—Steph. Catal. 325. No. 3751.

Brassy-black; thorax with its extreme hinder margin whitish; abdomen with the basal segment also whitish and diaphanous; legs black, with the *tibiæ* and *tarsi* dull luteous; wings hyaline, with a central fasciæform fuscous spot.

The male is said to differ in having the basal segment of the abdomen concolorous with the others.

Not very uncommon within the metropolitan district: it has been taken at Highgate and at Birch and Coombe woods; in the latter places in some plenty in June and July: the males appear to be very scarce.

#### GENUS V.—ABIA, Leach.

*Antennæ* 7-jointed, short, 2 basal joints transverse, 3rd very long, bent, 4th and 5th of equal length, more robust, 2 following very short, and forming an obtuse club: *maxillary palpi* of 6 unequal joints: *head* very small: *eyes* nearly united behind in the male: *ocelli* 3: *wings* as in *Cimbex*: *body* villose, cylindric, and adorned with a velvety dorsal patch in the males, broader and ovate in the females; the base not emarginate: *legs* short and slender, femora not incrassated in the males; *tibiæ* armed at the tip with rather obtuse spurs.

*Abia* differs from the cognate genus in having 7 articulations to the antennæ; the body of a rich metallic silken hue, the males having a raised velvety patch on the back of the abdomen, which latter in the females is broad, ovate and destitute of the patch: the insects are comparatively of small size, and appear to be gregarious.

Sp. 1. *nigricornis*. *Subvillosa, nigro-ænea, antennis ferrugineis, abdomine viridi-æneo, pedibus flavis, femoribus nigro-æneis, alis nebulâ mediâ maculâque apicali fuscescentibus.* (Long. corp. 4½—5¼ lin.; Exp. Alar. 9—11 lin.)

Ab. *nigricornis*. Leach.—Curtis, v. ii. pl. 89.—Steph. Catal. 325. No. 3752.



Head and thorax brassy-black, slightly villose; antennæ deep black; abdomen greenish-brass; femora brassy-black; tibiæ and tarsi luteous-yellow; wings of a dull brownish-luteous, with an irregular cloud in the middle, and the apex fuscous.

The male has the wings and markings thereon of a deeper hue, and a broad ovate dull velvety-black spot in the middle of the 4th, 5th, and 6th segments of the abdomen. The antennæ are sometimes brownish at the apex.

Taken occasionally in the woods about London, in June: I have found it at Coombe and Darent.

Sp. 2. *sericea*. *Subvillosa, nigro-ænea, antennis ferrugineis, abdomine supra viridi-æneo, pedibus luteis femoribus basi nigro-æneis, alis nebulâ mediâ strigâque apicali fusciscentibus.* (Long. corp.  $4\frac{1}{2}$ — $5\frac{1}{2}$  lin.; Exp. Alar. 9—11 lin.)

Te. *sericea*. *Linné.*—*Donovan*, v. xii. pl. 402.—*Ab. sericea. Steph. Catal.* 325. No. 3753.

Head and thorax brassy-black, the sides of the latter sometimes greenish; antennæ ferruginous, or luteous; abdomen bright greenish-brass above, blackish beneath, with the sides greenish; legs luteous, with the femora at the base brassy-black or purplish; wings hyaline, with a somewhat triangular brownish cloud in the middle, and a streak of the same at the apex.

The male has a narrow, elongate, velvety-black patch on the middle of the 4th, 5th, 6th, and 7th segments of the abdomen.

Also found in the vicinity of the metropolis, in June, on heaths, and in woods: I once met with it in utter profusion flying round an old willow at Coombe wood.

## GENUS VI.—AMASIS, *Leach*.

*Antennæ* 5-jointed, 2 basal joints short, 3rd rather long and slender, 4th shorter, 5th forming an obtuse club: *mandibles* bidentate: *head* small: *eyes* not approximating in the males: *wings* nearly as in *Cimbex*, the last submarginal areolet receiving 1 recurrent nervure, the 2nd two: *body* naked, punctured: *abdomen* with the 1st segment entire: *legs* short; 4 posterior tibiæ armed at the tip with a pair of acute spurs; *tarsi* with the penultimate joint much shorter than the antepenultimate.

The acute pair of spurs at the apex of the 4 posterior tibiæ of *Amasis*, exclusively of the different proportion of the joints of the tarsi, and the different number of those of the antennæ—which are 5 in number—the naked punctate depressed body, &c. sufficiently point out its distinction from the *Tenthridinidæ* with clavate antennæ.

†Sp. 1. *obscura. Totus nigra, alis albicantibus.* (Long. corp.  $3\frac{1}{2}$  lin.; Exp. Alar. 8 lin.)



*Ci. obscura.* *Fabricius.*—*Am. obscura.* *Steph. Catal.* 325. No. 3754.

Entirely black, with the wings whitish, the costa of the anterior dusky; body glabrous.

Said to have been found in Lincolnshire: the only specimens I have seen are in the collection at the British Museum.

†*Sp. 2. Jurinæ. Nigra, abdominis dorso subcroceo, segmento primo toto segmentisque aliis basi nigris, pedibus flavis, femoribus basi tibiis posticis apice tarsisque omnibus apice nigris.* (Long. corp.  $3\frac{1}{2}$  lin.; Exp. Alar. 8 lin.)

*Te. Jurinæ. St. Fargeau Mon.* 38. No. 103.—*Am. læta. Steph. Catal.* 325. No. 3755.

Black; abdomen with the basal joint anteriorly black, the 2nd black, with the sides broadly saffron-coloured, the remaining segments of this last colour, with the base of each on the back black; legs yellow, with the femora at the base, the apex of the hinder tibiæ and of each joint of the tarsi black; wings pellucid.

The only examples I have seen of this pretty species are in the British Museum: they were taken near Bristol.

§ 2. *Antennæ* 3-jointed, filiform or subclavate; ciliated or furcate in the males: anterior wings with 1 marginal and 4 submarginal areolets: *body* short and stout.

#### GENUS VII.—HYLOTOMA, *Fabricius.*

*Antennæ* 3-jointed, 2 basal joints small, 3rd very long, filiform, and ciliated on one side in the males, shorter and somewhat clavate in the females, and nearly glabrous: *labrum* transverse: *mandibles* bidentate: head transverse, with a tubercle between the antennæ: *wings* ample, anterior with one marginal areolet, emitting a nerve from the apex; [and 4 submarginal areolets, the 2nd receiving 1 recurrent nervure, the 3rd 2, and the 4th extending to the margin: *body* rather short and stout: *legs* simple in both sexes, 4 posterior tibiæ with a spine on the inner side below the middle, and two at the apex. Larva with 14 prolegs.

The singular 3-articulate simple antennæ of these insects sufficiently distinguish them from all the others of this family, excepting the females of *Schizocerus*, but from which they may be instantly known by the nervure, which is emitted at the apex of the marginal areolet of the anterior wings, as well as the spine on the inner margin of the 4 posterior tibiæ: it is, perhaps, matter of doubt whether the antennæ really consist of only 3 articulations, as it is probable that if investigated with a very high power, the apparent elongated 3rd joint is composed of several closely united ones.

A. *Antennæ* short, nearly filiform in the females, and pilose:—*PTILIA*,  
*St. Fargeau.*



Sp. 1. pilicornis. *Corpore atro-cærulescente, alis pallidé nigricantibus, apice dilutioribus, pedibus nigris albido-vestitis, antennis elongatis nigris nigro-ciliatis, areolâ submarginali tertiâ apice superiore productâ.* (Long. corp.  $2\frac{3}{4}$  lin.; Exp. Alar. 6 lin.)

Hy. pilicornis. *Leach.*—*Steph. Catal.* 325. No. 3756.

Blue-black; antennæ black, very long and slender, scarcely thickened at the apex, and ciliated with black; wings pale dusky, paler at the apex, the 3rd submarginal areolet produced on the upper apex; legs black, with a whitish pile.

Taken at Coombe wood in May, apparently very rare.

B. *Antennæ* elongate, subclavate in the females, and nearly glabrous:—

HYLOTOMA, *St. Far.*

†Sp. 2. Berberidis. *Corpore atro-cærulescente, alis cærulescente-fuscis, abdominis segmento ultimo ventrali (in femina) forcipis instar producto.* (Long. corp. 4 lin.; Exp. Alar.  $7\frac{1}{2}$  lin.)

Hy. Berberidis. *Klug.*—*Steph. Catal.* 326. No. 3757.

Body blue-black, rather slender; wings bluish-brown; abdomen in the female with the terminal ventral segment with a process resembling forceps; antennæ black, slender.

Found by Dr. Leach in the west of England.

Sp. 3. Anglica. *Corpore atro-cærulescente, alis albidis fuscescente subnebulosis, antennis pedibusque nigris, his albido villosis.* (Long. corp. 4 lin.; Exp. Alar.  $7\frac{1}{2}$  lin.)

Hy. Anglica. *Leach.*—*Steph. Catal.* 326 No. 3758.

Head, thorax, and abdomen shining blue-black; legs black, with a whitish pile; antennæ also black, rather stout; wings whitish, slightly clouded with brownish.

Taken at Darenth wood in May; not common.

Sp. 4. enodis. *Antennæ, capite, thorace, abdomine pedibusque atro-cæruleis, alis atro-cærulescentibus, apice albo-hyalinis.* (Long. corp. 4—5 lin.; Exp. Alar. 9—10 lin.)

Te. enodis. *Linné.*—Hy. enodis. *Steph. Catal.* 326. No. 3759.

Antennæ, head, thorax, abdomen, and legs, shining blue-black; wings also blue-black, with the apex hyaline and white.

Rare: found in the vicinity of London, and in the west of England, in May and June.

Sp. 5. violacea. *Atro-cærulea, albido-vestita, alis hyalinis, subfuscescentibus, maculâ substigmatæ fuscâ.* (Long. corp. 5 lin.; Exp. Alar. 10 lin.)

Hy. violacea. *Klug.*—*Steph. Catal.* 326. No. 3760.

Deep shining blue-black, clothed with a whitish down; tibiæ and tarsi blackish; wings hyaline, slightly brown, with a darker spot on the disc near the stigma.

More abundant than the last, though not common: taken occa-



sionally at Coombe and Darenth woods towards the end of May and beginning of June.

Sp. 6. *cærulea*. *Corpore-cæruleo, alis albo hyalinis, tibiæ posticarum basi albicante, antennis nigris*. (Long. corp. 4 lin.; Exp. Alar.  $7\frac{1}{2}$  lin.)

Hy. *cærulea*. *Klug.*—*Steph. Catal.* 326. No. 3761.

Blue, shining, with a faint whitish pile; palpi yellowish; antennæ and legs black, the latter with the tibiæ and tarsi paler, the base of the tibiæ faintly whitish; wings whitish hyaline, faintly stained with brownish, and with a darker cloud of the same in the second marginal areolet.

Also rather uncommon: taken within the metropolitan district in May and June.

Sp. 7. *ustulata*. *Corpore cærulescente, antennis nigris, mandibulis apice piceis, palpis, tibiis tarsisque luteo-albis, alis flavescens maculâ costali pone medium fusca*. (Long. corp. 4— $4\frac{1}{2}$  lin.; Exp. Alar. 7—9 lin.)

Te. *ustulata*. *Linné.*—Hy. *ustulata*. *Steph. Catal.* 326. No. 3762.

Body bluish; antennæ black; mandibles pitchy at the apex; palpi, tibiæ, and tarsi luteous-white; wings yellowish, with lutescent nervures, a distinct brown spot on the costa behind the middle, and adjoining the stigma: and at the apex is a faint cloud of the same hue.

Common on umbelliferous flowers in the woods throughout the metropolitan district; also in hedges, banks, &c. from May to July.

Sp. 8. *Leachii*. *Æneo-nigra, antennis nigris, subtus piceis, tibiis tarsisque albidis, alis hyalinis pallide fuscescentibus, maculâ costali pone medium fusca*. (Long. corp. 4— $4\frac{1}{2}$  lin.; Exp. Alar.  $7\frac{1}{2}$ —8 lin.)

Hy. *Leachii*. *Steph. Catal.* 326. No. 3763.

Of a slightly brassy-black; antennæ black, with the under surface pitchy; palpi whitish: tibiæ and tarsi the same; wings hyaline, of a pale fuscescent tinge, with brownish nervures, a large spot of brown on the costa behind the middle, and a faint cloud at the apex.

Found at Darenth wood in June and July, apparently scarce.

Sp. 9. *Klugii*. *PLATE XXXV. f. 4.*—*Subæneo-nigra, alis fuscescenti-fulvescentibus, nebulâ costali saturatiore, tibiis tarsisque luteis*. (Long. corp.  $3\frac{3}{4}$  lin.; Exp. Alar.  $7\frac{1}{2}$  lin.)

Hy. *Klugii*. *Leach.*—*Steph. Catal.* 326. No. 3764.

Of a somewhat brassy-black: antennæ black, in the male with long cilia; legs with brassy-black femora, and pale luteous tibiæ and tarsi; wings of a brownish-fulvescent hue, with dusky nervures, and a slightly darker spot on the costa adjoining the stigma.

Supposed to be the male of the following, but I possess both sexes of each species.

Taken at Birch wood, and in the vicinity of Darenth, but not common.



Sp. 10. *segmentaria*. *Corpore nigro-æneo, tibiis testaceo-albidis, abdominis segmentis apice tenuissimo albido marginatis, alis hyalinis, subferrugineis, nervis maculâque elongatâ ad apicem fuscis.* (Long. corp. 3—4½ lin.; Exp. Alar. 7½—9 lin.)

Cry. *segmentarius*. *Panzer.*—Hy. *segmentaria*. *Steph. Catal.* 326. No. 3765. Body brassy-black; antennæ black, with the basal joint whitish beneath; palpi pale; abdomen black, its apex with a whitish pile, and each segment with a narrow whitish or pale lutescent margin; tibiæ, extreme apex of the femora, and base of the tarsi pale testaceous-white; wings hyaline, slightly ferruginous, with the nervures, and a large irregularly-ovate spot at the apex of the costa fuscous.

Also rather scarce: taken at Darenth wood, and near Ripley, in May and June.

Sp. 11. *cyaneo-crocea*. *Cæruleo-nigra, abdomine tibiis femoribusque posticis, apice excepto, flavis; alis flavescentibus fasciâ transversâ stigmatæque fuscis.* (Long. corp. 3—4 lin.; Exp. Alar. 7½—8 lin.)

Te. *cyaneo-crocea*. *Forster.*—Hy. *cyaneo-crocea*. *Steph. Catal.* 326. No. 3766. Head and thorax blue-black, shining; abdomen yellow, with its extreme apex bluish; 4 anterior femora black; posterior tibiæ pale yellow, with the apex alone black; tarsi yellow, with the tips of the joints black; antennæ black; palpi fuscous; wings hyaline, yellowish, dusky at the apex, the stigma and a transverse fascia, united to it, fuscous.

The anterior tibiæ are sometimes pale yellow.

Abundant on umbelliferous plants throughout the metropolitan district in June, and at the beginning of July.

Sp. 12. *femoralis*. *Cyaneo-nigra, abdomine tibiisque flavis, alis flavescentibus stigmatæ fusco.* (Long. corp. 4 lin.; Exp. Alar. 7½—8 lin.)

Hy. *femoralis*. *Klug.*—*Steph. Catal.* 326. No. 3767.

Head and thorax violet-black; abdomen luteous, with its extreme apex black; legs pale luteous, with all the femora, and the tips of the posterior pair of tibiæ and tarsi black; antennæ black; palpi dull luteous; wings pale yellowish, with a brown stigma.

This is also a common species, and is found throughout the metropolitan district in June, frequenting the same haunts as the preceding.

Sp. 13. *Rosæ*. *Corpore flavo, capite thoracis dorso, pectore, alarum anticarum costâ et tarsorum annulis nigris.* (Long. corp. 3½—4½ lin.; Exp. Alar. 7—9 lin.)

Hy. *Rosæ*. *Fabricius.*—*Steph. Catal.* 326. No. 3768.—Te. *Rosæ*. *Donovan,* v. v. pl. 164.

Head black; thorax luteous, with the back and breast black; abdomen yellow; legs the same, but paler, with the apex of the two hinder tibiæ and of all the tarsi black; antennæ black; palpi luteous, wings hyaline, pale



luteous, with the apex pale, the costa towards the stigma, and this last, black.

Not very common, at least within the metropolitan district, where it occurs in June, about Darenth wood : also found in Norfolk.

Sp. 14. *Stephensii*. *Atro-violascens, alis hyalinis costâ pedibusque nigricantibus, his albido villosis, femoribus 4 posticis abdomineque flavis.* (Long. corp.  $2\frac{3}{4}$ —4 lin.; Exp. Alar. 6— $8\frac{1}{2}$  lin.)

Hy. *Stephensii*. *Leach.*—*Curtis, v. ii. pl. 65.*—*Steph. Catal. 327. No. 3769.*

Head and thorax glossy violet-black; abdomen yellow; legs black, with whitish pile, and the 4 hinder femora pale yellow; wings hyaline fuscous, anterior with the costa to the stigma, including this last, dusky. Male with the antennæ rather long; female with the pleuræ yellow.

Taken at Darenth wood on umbelliferous plants, about the end of June, or beginning of July: not very common.

Sp. 15. *pagana*. *Atro-violacea, alis antennis pedibusque nigris, abdomine flavo.* (Long. corp.  $3\frac{1}{2}$ —4 lin.; Exp. Alar.  $6\frac{1}{2}$ —8 lin.)

Te. *pagana*. *Panzer.*—Hy. *pagana*. *Steph. Catal. 327. No. 3770.*

Head and thorax deep violet-black and shining; abdomen yellow; femora blue-black; tibiæ and tarsi black; wings brownish-black; antennæ black.

Rare: found at Darenth wood towards the middle and end of June.

### GENUS VIII.—SCHIZOCERUS, *Latreille*.

*Antennæ* 3-jointed, 2 basal joints short, 3rd elongate, furcate, with numerous series of rigid hairs on each branch; in the female simple, filiform and naked: *mandibles* unidentate: *head* transverse, with a frontal tubercle: *ocelli* 3: *wings* ample, anterior with 1 perfect marginal areolet, and 3 imperfect nearly equal submarginal ones, the former with its nervure carried to the apex: *abdomen* rather short: *legs* simple; *tibiæ* with spines only at the apex.

Both sexes of the insects of this genus may be known from *Hylotoma* by having the marginal areolet of the anterior wings complete, and not partially divided by a nervure, in addition to their having the 4 hinder tibiæ not armed with a spur towards the middle of the inner margin, and other differences in the trophi: the males have a peculiarity in their antennæ, which are singularly furcate, the long terminal joint being divided into two long branches of equal length, which are strongly ciliated on both sides: in the females this joint is simple and filiform.

Sp. 1. *furcatus*. *Niger, abdomine flavo, segmento 1-mo nigricante, pedibus palpisque luteis.* (Long. corp.  $2\frac{3}{4}$ — $3\frac{1}{2}$  lin.; Exp. Alar. 6— $7\frac{1}{2}$  lin.)



*Te, furcata.* Villers.—Sch. *furcatus.* Steph. *Catal.* 327, No. 3771.

Head and thorax black, slightly shining; abdomen dull yellow, with the basal segment dusky or blackish; legs luteous; femora black at the extreme base; wings hyaline, fuscous; palpi also luteous; antennæ black and ciliated in the male.

A rare insect, and I believe not found within the metropolitan district; the only specimens I have seen having been taken in Somersetshire, in the vicinity of Bristol, in June.

Sp. 2. *pallipes.* *Æneo-niger, nitidus, antennis nigris, tibiis tarsisque pallidis, alis hyalinis fasciâ obscurâ substigmate pallide fuscescente.* (Long. corp.  $2\frac{1}{2}$  lin.; Exp. Alar. 5— $5\frac{1}{2}$  lin.)

Cry. *pallipes.* Leach.—Sch. *pallipes.* Curtis, v. ii. pl. 58.—Steph. *Catal.* 327. No. 3772.

Head, thorax, and abdomen shining brassy-black; femora dusky-black, tibiæ and tarsi pale; wings hyaline, with a faint brownish fascia annexed to the stigma, which is fuscous; antennæ black, faintly ciliated in the male.

Apparently very rare: I have taken both sexes at Coombe wood in June, and the females at Birch wood, but I know of no other locality.

§ 3. *Antennæ* many-jointed, with a double series of pectinations beneath in the males; thickened towards the middle, with the apex acuminate and somewhat serrated within in the females; *anterior wings* with 1 ample marginal areolet and 4 submarginal ones, the 1st of the latter sometimes incomplete; *body* broad, depressed.

#### GENUS IX.—LOPHYRUS, Latreille.

*Antennæ* composed of numerous distinct articulations, the 2 basal ones straight and simple, the remainder placed obliquely, and in the males producing on each side a long ciliated ray, gradually decreasing in length to the apex, the 3 or 4 terminal joints having but one ray, and the extreme one being simple; in the female they are thickened in the middle, and slightly serrated within: *mandibles* tridentate: *head* transverse, wide in the males, small in the females: *ocelli* 3: *wings* ample, anterior with 1 marginal and 4 submarginal areolets, the first 2 of the latter with the divisional nervure imperfect: *abdomen* broad, depressed in the females: *legs* simple; *tibiæ* with a pair of acute spurs at the apex only. Larva with 16 prolegs.

There is considerable disparity in the sexes of this genus, but each may be readily known from the other genera of this family, by the antennæ alone; in the males these organs are strongly bipectinated (as in many Lepidoptera), the pectinations, or rays, diminishing in length to the apex of the antennæ, the terminal joint being simple; in the females they are thickened in the middle, and slightly atte-



nuated to the apex, and more or less serrated within: all the species appear to subsist in their larva state upon different plants of the fir kind.

Sp. 1. Pini. Mas; *ovatus subdepressus ater, alis posticis apice fuscescentibus, antennis thorace brevioribus, lanceolatis, radiis utrinque 20*:—fœmina; *albida, capite thoracis maculis abdominisque medio fuscis, antennarum articulis 20*. (Long. corp. ♂  $3\frac{1}{2}$  lin.; ♀  $4\frac{1}{2}$ ; Exp. Alar. ♂ 6 lin.; ♀ 9— $9\frac{1}{2}$  lin.)

Ten. Pini. Linné.—Lo. Pini. Curtis, v. ii. pl. 54, ♂ and ♀.—Steph. Catal. 327. No. 3773.

Male ovate, slightly depressed, black, slightly villose; palpi and two basal joints of the antennæ testaceous; antennæ shorter than the thorax, lanceolate, with 20 rays on each side and a simple terminal joint; tibiæ and tarsi pale, with the tips of the joints dusky; wings hyaline, with the nervures pale at the base, the stigma dusky; posterior with the extreme apex brownish. Female much depressed, whitish, or pale testaceous, with an irregular patch on the middle of the thorax, and of the abdomen, the breast, head, and antennæ black, except the 2 basal joints of the last, which are pale; the antennæ 20 jointed. Some examples of this sex are more distinctly spotted with black than others, and the spots vary in size.

Found in Scotland, and in Cumberland and Derbyshire; in the former country near Edinburgh and in Dumfriesshire; on the pine in June: it is not common.

Sp. 2. rufus. PLATE XXXV. f. 1. ♂; f. 2. ♀.—Mas; *corpore depresso-sublineari, nigro-nitido, abdomine subtus pedibusque rufis, antennis thorace duplo longioribus ensiformibus, radiis utrinque 25*:—fœmina; *corpore subcylindrico, elongato, rufo-testaceo unicolore, antennarum articulis 23*. (Long. corp. ♂  $3\frac{1}{2}$ —♀ 4 lin.; Exp. Alar. ♂ 7—♀ 9 lin.)

Lo. rufus. Klug.—Steph. Catal. 327. No. 3774.

Male with the body depressed, somewhat linear, shining black; abdomen beneath (except the apex) and the legs testaceous-red; antennæ twice the length of the thorax, sword-shaped, with 25 rays on each side, and a simple joint at the apex; wings hyaline, anterior with a faint brownish stigma. Female with the body subcylindric, elongate, and entirely of a testaceous-red; antennæ black, 23-jointed, the 2 basal joints testaceous.

The thorax and the base of the abdomen are occasionally spotted a little with black.

Not very uncommon in fir plantations within the metropolitan district. I have taken it in June near Ripley, and Cobham in Surrey, and also in Birch wood: it occurs likewise in Scotland.

†Sp. 3. pallidus. Mas; *ater, ovato-depressus, abdomine subtus rufo, pedibus pallidis, antennis thorace brevioribus, lanceolatis, radiis utrinque 18*:—fœmina;



*pallide flavescens, thorace maculis, abdomine fasciis fuscis, antennarum articulis* 18. (Long. corp. ♂ 3 lin.; ♀ 4 lin.:—Exp. Alar. ♂ 5 lin.; ♀  $7\frac{1}{4}$  lin.)

*Lo. pallidus.* *Klug.*—*Steph. Catal.* 327. No. 3775.

Male ovate-depressed, black, with the abdomen red beneath; legs pale; antennæ shorter than the thorax, lanceolate, with 18 rays on each side. Female pale yellowish; thorax with about 3 dorsal black spots; abdomen with brownish fasciæ; antennæ with 18 joints, the basal ones lutescent.

Taken in the larva state by Dr. Leach near Oban, in Scotland, and reared in June: also found by A. Cooper, Esq. near Cobham, in Surrey.

§ 4. *Antennæ* 9-jointed, moderate or elongated; *anterior wings* with 1 marginal and 3—4 submarginal areolets; *body* short.

### GENUS X.—CLADIUS, *Leach.*

*Antennæ* with the 2 basal joints straight and short, the rest obliquely inserted, pilose in the males, and occasionally furnished with an elongate process on one side, giving a branched appearance; in the females simple and slightly pilose: *mandibles* unidentate: *head* transverse: *ocelli* 3: *wings* ample; anterior with 1 large marginal areolet, and 3 distinct submarginal ones, the 2nd short, and receiving a recurrent nervure in the middle, the 1st in some species obscurely subdivided by a very indistinct nervure, producing the appearance of 4 areolets: *legs* simple: *tibiæ* all with only a pair of spurs at the apex. Larva with 18 prolegs.

Although some of the species of this genus closely approximate to those of the 2 following genera, the difference in the structure of the antennæ, which, however, vary slightly in the species, and consequently require a division in the genus, exclusively of the variation in the neuration of the anterior wings, will sufficiently enable the reader to distinguish them, the antennæ being pilose in both sexes, and in all the males the 3rd joint is more or less eccentric; in the typical species that and the 3 following being all so constructed.

†Sp. 4. *Juniperi.* *Niger, nitidus, tibiis tarsisque pallidis antennis fœminæ* 16 articulis, *maris uno versû pectinatis, apice involutis, obtusis.* (Long. corp. ♂  $2\frac{1}{2}$  lin.; ♀ 3 lin.:—Exp. Alar. ♂  $5\frac{1}{2}$  lin.; ♀ 6 lin.)

*Te. Juniperi.* *Linné.*—*Turton (!)*—*Steph. Catal.* 328. No. 3776, *note.*

Shining black, with the tibiæ and tarsi pale; antennæ 16-jointed in the female, and testaceous; in the male with a series of pectinations, the apex simple, obtuse.

Turton indicates this as British, but I presume without authority, as I have never seen an indigenous specimen.



A. *Antennæ* of the male with elongate appendages to the 3rd, 4th, and 5th joints:—CLADIUS, *Leach*.

Sp. 1. *difformis*. *Niger, pedibus albidis, femoribus nigris, apice albidis, alis hyalinis, nervuris stigmatæque fuscis*. (Long. corp. 2—2½ lin.; Exp. Alar. 4—5 lin.)

Te. *difformis*. *Panzer*.—*Steph. Catal.* 328. No. 3777.

Head, thorax, abdomen, and antennæ black; femora also black at the base, the extreme apex, and the tibiæ and tarsi yellowish-white; wings hyaline, with the costa dusky at the base, the nervures and stigma brown. Female similar, excepting that the antennæ are simple.

The wings are sometimes entirely clouded with yellowish-brown.

The larva is said to feed on roses: it is green, with an ochreous head, and a darker green line along the sides.

Not uncommon in gardens and hedge banks throughout the metropolitan district, existing in the metropolis itself; also found near Bristol, and in the north of England, and in Scotland, in May and June.

B. *Antennæ* of the males with a minute appendage on the 3rd and 4th joints only:—NEMATUS, *p. Leach*.

Sp. 2. *rufipes*. *Niger, pedibus testaceis, alis hyalinis, nervuris piceis*. (Long. corp. 2½—3 lin.; Exp. Alar. 4—5½ lin.)

Cl. *rufipes*. *St. Fargeau*.—*Steph. Catal.* 328. No. 3778.

Head, thorax, abdomen, and antennæ black; legs testaceous, the extreme base of the femora sometimes dusky.

Sexes alike, excepting the male has an incurved appendage to the 3rd joint of the antennæ, and the female has the antennæ simple.

Taken at Darenth wood in June.

Sp. 3. *pallipes*. *Niger, pedibus pallidis, tarsis 2-bus posticis nigris, alis hyalinis, nervuris subfuscis*. (Long. corp. 2—2½ lin.; Exp. Alar. 3¾—4½ lin.)

Cl. *pallipes*. *St. Fargeau*.—*Steph. Catal.* 328. No. 3779.

Head, thorax, abdomen, and antennæ black; legs pale, with the two posterior tarsi black; wings hyaline, with brownish nervures and stigma.

Males with a small appendage at the apex of the 3rd and 4th joints of the antennæ, which are simple in the females.

Found at Coombe wood, about the end of June.

Sp. 4. *Morio*. *Niger, pedibus pallidis, femoribus nigris, alis hyalinis, nervuris fuscescentibus*. (Long. corp. 2—3 lin.; Exp. Alar. 4—5 lin.)

Cl. *Morio*. *St. Fargeau*.—*Steph. Catal.* 328. No. 3780.

Head, thorax, and antennæ black; legs pale, with the femora black; wings hyaline, the nervures and stigma brownish.

Male with a minute appendage at the apex of the 3rd and 4th joints of the antennæ.



Taken at Coombe and Darenth woods; also near Hertford and Dover, in May and June.

Sp. 5. *immunis*. *Niger, pedibus pallidis, femoribus posticis nigris, alis hyalinis nervuris subfuscis*. (Long. corp. 2—3 lin.; Exp. Alar. 4—4½ lin.)

Cl. *immunis*. *Steph. Catal.* 328. No. 3781.

Head, thorax, abdomen, and antennæ black; legs pale, with the posterior femora black; wings hyaline, with the nervures and stigma brownish.

Found in June at Hertford.

Sp. 6. *pilicornis*. *Niger, pedibus pallidis, tibiis posticis lineâ fuscâ latere interno, femorum tibiæ apice albido-ochraceis*. (Long. corp. 3 lin.; Exp. Alar. 4—4½ lin.)

Cl. *pilicornis*. *Curtis, v. x. pl.* 457.—*Steph. Nomen.* 2d edit. col. 124.

Head, thorax, abdomen, and antennæ black; legs pale, with the tips of the femora and of the tibiæ whitish ochre, the hinder pair with a fuscous line on the inner side; tarsi brownish-ochre; wings pale yellowish-brown, with the costa and stigma darker; nervures pitchy.

The antennæ of the male are pilose, but not more so than in other species of the genus.

Found in the vicinity of the metropolis in June: taken on the 20th June last on Forest Hill, near Dulwich.

Sp. 7. *luteicornis*. *PLATE XXXVIII. f. 1.—Luteus, capite, thorace, pectore abdominisque basi nigris, alis lutescentibus apice pallidis*. (Long. corp. 3—3½ lin.; Exp. Alar. 5—6½ lin.)

Cl. *luteicornis*. *Steph. Catal.* 328. No. 3782.

Head and thorax black, the shoulders luteous; abdomen luteous, with a black spot at the base; breast black; legs luteous, with the apex of the hinder tibiæ and of the joints of the posterior tarsi fuscous; wings lutescent at the base, pale at the apex, the nervures pale testaceous, the stigma fuscescent; palpi and antennæ pale luteous, the 2 basal joints of the last black.

Metathorax sometimes with 2 pale spots.

Apparently very rare: my specimens were taken at Darenth wood, in July, many years since.

## GENUS XI.—PRISTIPHORA, Latreille.

*Antennæ* 9-jointed, rather short; simple, finely pubescent in the males, setaceous, 2 basal joints short, remainder decreasing in length from the 3rd joint: *mandibles* slightly dentate: *head* rather wide: *ocelli* 3: *wings* ample; anterior with 1 marginal and 3 submarginal areolets; the 1st elongate, large, 2nd small, quadrate; 3rd extending to the apex: *body* short, rather stout: *legs* simple in both sexes, 4 posterior *tibiæ* with 2 acute spurs at the apex.

*Pristiphora* appears to form an intermediate genus to *Cladius* and



*Nematus*, agreeing nearly in the neururation of the wings with the former, and in the simplicity of its antennæ with the latter: the males have these last organs but slightly pubescent, and are destitute of any appendage at the tip of the basal joints, and the females have them very short and slender, and glabrous, by which character either of the sexes may be known from *Cladius*; and from *Nematus*, the want of the minute, rounded, submarginal areolet, distinguish them; though, it must be admitted, that the nervure which subdivides this from the 2nd is occasionally very faint in *the true Ne. pallipes*.

A. *Anterior wings* with the 1st submarginal areolet large, and receiving 2 recurrent nervures; the 2nd small, quadrate.

Sp. 1. *Myosotidis*. *Nigra, abdomine testaceo, segmentorum omnium lineis dorsalibus nigris, pedibus testaceis posticis femorum tibiæ et tarsis nigris.* (Long. corp. 3 lin.; Exp. Alar.  $6\frac{1}{2}$  lin.)

Te. *Myosotidis*. *Fabricius*.—Pr. *Myosotidis*. *Steph. Catal.* 382. No. 3783.

Black; thorax with pale shoulders; abdomen testaceous, all the segments with an abbreviated transverse black dorsal line, sometimes interrupted in the middle; legs pale testaceous, posterior with the extreme tip of the femora, and of the tibiæ and the tarsi black; wings hyaline, with pale nervures, and a brown stigma; mouth testaceous.

This appears to be a scarce insect: I have taken it in June at Darenth wood.

Sp. 2. *testacea*. *Nigra, humeris punctis duobus metathoracis abdomineque testaceis, pedibus pallide testaceis, tibiæ et tarsis fuscis.* (Long. corp.  $2\frac{1}{2}$ —3 lin.; Exp. Alar. 5—6 lin.)

Pte. *testaceus*. *Jurine*.—Pr. *testacea*. *Steph. Catal.* 328. No. 3784.

Black: mouth testaceous; thorax with the shoulders and two spots on the metathorax luteous; abdomen pale testaceous, the basal segment dusky, or with a black transverse streak on its margin; legs pale testaceous, with the apex of the two hinder tibiæ fuscous; wings hyaline.

Not very common: found occasionally at Darenth wood in June, and in Devonshire.

Sp. 3. *pallipes*. *Nigra, ore, punctoque metathorace ferrugineis, antennis testaceis subtus pallidis articulis 2-bus baseos fuscis, pedibus pallidis.* (Long. corp.  $2\frac{1}{2}$ —3 lin.; Exp. Alar. 4— $5\frac{1}{2}$  lin.)

Pr. *pallipes*. *St. Fargeau*.—*Steph. Catal.* 328. No. 3785.

Black: mouth ferruginous, and a geminated spot of the same on the metathorax; legs pale; wings hyaline, with the costa pale, the nervures and stigma fuscous; antennæ testaceous above, pale beneath, with the 2 basal joints fuscous.

Found in the vicinity of London, about the middle of June.



Sp. 4. *rufipes*. *Nigra, pedibus testaceis, femorum basi nigris, labro testaceo, mandibulis fuscis.* (Long. corp.  $2\frac{1}{2}$  lin.; Exp. Alar. 5 lin.)

Pr. *rufipes*. *St. Fargeau.—Steph. Catal. 328. No. 3786.*

Head, thorax, abdomen, and antennæ black; legs testaceous, with the base of the femora black; wings hyaline, with the nervures and stigma fuscous; labrum testaceous; mandibles fuscous.

Also taken in June, within the metropolitan district.

Sp. 5. *testaceicornis*. *Nigra, pedibus 4 anticis pallidis femoribus nigro maculatis, 2 posticis nigris tibiis basi latè pallidis, antennis testaceis, articulis 2 baseos nigris.* (Long. corp.  $2\frac{1}{2}$  lin.; Exp. Alar. 5 lin.)

Pr. *testaceicornis*. *St. Fargeau.—Steph. Catal. 328. No. 3787.*

Head, thorax, and abdomen black; 4 anterior legs pale, with the femora clouded with black, the 2 hinder black, with the tibiæ broadly pale at the base; antennæ testaceous, with the 2 basal joints black; palpi also testaceous; wings hyaline, with the nervures and stigma fuscous.

Found, but rarely, near London, in June.

Sp. 6. *fusca*. *Nigra, pedibus 4 anticis pallidis 2 posticis nigris, tibiis basi latè pallidis, ore fusco-testaceo.* (Long. corp.  $2\frac{3}{4}$  lin.; Exp. Alar.  $5\frac{1}{2}$  lin.)

Pr. *fusca*. *St. Fargeau.—Steph. Nomen. 2d edit. col. 124.*

Head, thorax, abdomen, and antennæ black; 4 anterior legs pale, 2 posterior black, with the tibiæ broadly pale at the base; wings hyaline, with the costa pale, and the nervures and stigma fuscous; mouth dusky-testaceous.

Taken in June near Darenth wood.

B. *Anterior wings* with the 1st submarginal areolet small, rounded; the 2nd very long, receiving 2 recurrent nervures.

Sp. 7. *duplex*. *Nigra, palpis, humeris, abdomine subtus et lateribus anoque pallidis, pedibus 4 anticis pallidis apice fuscis, 2 posticis fuscis, femorum tibiæ apice pallidis.* (Long. corp. 2 lin.; Exp. Alar. 5 lin.)

Pr. *varipes*. *St. Fargeau.—Steph. Catal. 328. No. 3789.*

Head, antennæ, and thorax black; shoulders pale; abdomen above black; beneath and with the sides and apex pale; 4 anterior legs also pale, the tips fuscous; posterior fuscous, with the apex of the femora and tibiæ pale; wings hyaline, with the nervures and stigma fuscous, the costa pale luteous; mouth dusky-testaceous; palpi pale.

Found at Hertford, in June; apparently rare.

Sp. 8. *atra*. *Nigra, pedibus pallidis, femoribus basi nigris.* (Long. corp. 2 lin. Exp. Alar.  $4\frac{1}{2}$  lin.)

Pr. *atra*. *St. Fargeau.—Steph. Nomen. 2d edit. col. 124.*

Head, thorax, abdomen, and antennæ black; legs pale, with the base of the femora black; wings hyaline, the nervures and stigma pale fuscous.

Taken within the metropolitan district, in June.



C. *Anterior wings* with the 2nd areolet small, receiving 1 recurrent nervure; the 3rd receiving 2.

Sp. 9. varipes. *Nigra, ore pedibusque albo variis; alis hyalinis.* (Long. corp. 2—2½ lin.; Exp. Alar. 4½—5½ lin.)

Pr. varipes. *St. Fargeau.—Steph. Catal. 328. No. 3708.*

Head, thorax, abdomen, and antennæ black; legs black, varied with white; mouth varied with white; wings hyaline.

Not common: found in June at Hertford.

## GENUS XII.—NEMATUS, *Leach.*

*Antennæ* 9-jointed, elongate, slender, simple, 2 basal joints short, 3rd longest, remainder gradually diminishing in length to the apex: *head* small, transverse: *mandibles* dentate: *ocelli* 3: *wings* ample, anterior with 1 large marginal areolet, and 4 submarginal ones, the 1st small, rounded, the rest in general nearly equal to each other, the 2nd receiving 1 recurrent nervure, the 3rd 2; this last areolet is occasionally minute: *body* short, subcylindric in the males, broader and depressed in the females: *legs* simple: *tibiæ* with 2 sharp spurs at the apex only.

It appears to me that this genus may be distinguished from *Pristiphora* by the simplicity and nakedness of the antennæ, exclusively of the variation in the neururation of the anterior wings, which, although constructed upon the same model as in *Pristiphora*, differ in possessing a distinct rounded submarginal areolet; for the variations that occasionally take place in some of the first species, by the rudiments alone of a nervure being perceptible,\* ought not to militate against the general rule, especially when we find there is a prevalent diversity of habit between the insects of the respective genera, *Pristiphora* being more closely allied to *Cladius* than to *Nematus*.

Sp. 1. pallipes. *Nigra, pedibus testaceis, alis hyalinis, nervuris pallide fuscis, stigmatè fusco.* (Long. corp. 2½—3½ lin.; Exp. Alar. 5—7 lin.)

Ne. pallipes. *St. Fargeau.—Steph. Catal. 328. No. 3790.*

Head, thorax, abdomen, and antennæ black; legs pale; wings hyaline, whitish, with pale fuscous nervures; stigma brown.

Not uncommon throughout the metropolitan district in June, frequenting willows.

Sp. 2. bicolor. *Niger, ore albo vario, pedibus albo maculatis.* (Long. corp. 2½—3 lin.; Exp. Alar. 5—5½ lin.)

Ne. bicolor. *St. Fargeau Mon. 62.—Steph. Nomen. 2d edit. Appendix.*

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\* In my collection are numerous examples in almost every genus of the Terebrantia, of variations in the number of areolets.



Head, thorax, abdomen, and antennæ black ; legs black, spotted with white wings hyaline, pale, with a yellowish stigma ; mouth varied with white.

Taken at Hertford in July last.

Sp. 3. *crassicornis*. *Niger, pedibus testaceis, femorum basi nigris, antennis brevibus crassis, alis fuscescentibus, stigmate saturatiori.* (Long. corp. 3 lin. ; Exp. Alar. 5—6 lin.)

Ne. *crassicornis*. *Steph. Catal.* 328. No. 3791.

Head, thorax, abdomen, and antennæ black, the last short and thickened, especially at the base ; legs pale whitish, with the base of the femora black ; the extreme tip of the hinder tibiæ and the entire posterior tarsi dusky-brown ; wings yellowish-brown, the costa pale, and the stigma deep brown.

Found, but rarely, at Coombe wood, towards the middle of June.

Sp. 4. *grandis*. *Testaceus, antennis, capite, thoracis dorso pectoreque nigris, alis testaceis, nervuris fuscis.* (Long. corp. 4—4½ lin. ; Exp. Alar. 6—8 lin.)

Ne. *grandis*. *St. Fargeau.—Steph. Catal.* 328. No. 3792.

Head and antennæ black ; thorax testaceous, its back, metathorax, and middle of the breast black ; abdomen pale testaceous, with the base brownish ; legs and palpi pale testaceous ; wings testaceous, with the nervures fuscous ; stigma and costa testaceous-brown.

Not uncommon at Darenth wood and Ripley in June.

Sp. 5. *pectoralis*. *Testaceus, antennis thorace maculis 3-bus punctisque 2-bus dorsalibus, sternoque nigris, tarsis fuscis.* (Long. corp. 4 lin. ; Exp. Alar. 6 lin.)

Ne. *pectoralis*. *St. Fargeau.—Steph. Catal.* 328. No. 3793.

Head testaceous, with the crown fuscous ; antennæ black ; thorax testaceous, with 3 spots and 2 dots on the back black ; sternum black ; abdomen and legs testaceous, tarsi fuscous ; wings hyaline, with fuscous nervures ; the costa and stigma pale.

Scarce ? taken at Darenth wood in June.

Sp. 6. *clitellatus* ? *Pallide testaceus, antennis vertice thoracis, dorso, femoribusque 4 anticis basi, nigris.* (Long. corp. 5½ lin. ; Exp. Alar. 9—10 lin.)

Ne. *clitellatus*. *St. Fargeau ?—Steph. Catal.* 328. No. 3794.

Head pale testaceous, with the crown and antennæ black ; thorax black, with the shoulders, a streak on each side beneath the wings, and two dots on the metathorax pale testaceous ; abdomen with the base brown above ; legs testaceous, with the base of the four anterior black, and the posterior tarsi fuscous ; wings hyaline, with the nervures, costa, and stigma fuscous.

This seems to differ from Ne. *clitellatus* in having the posterior tarsi, costa of the anterior wings, and the stigma fuscous ; in that species, the former are said to be testaceous, and the latter 2 pale.

A rare species : found near Camberwell and in Darenth wood, towards the end of June.

Sp. 7. *dimidiatus*. *Testaceus, antennis supra capite thoracis dorso, tibiis tarsisque 2-bus posticis apice nigris.* (Long. corp. 4—5 lin.; Exp. Alar. 7—8 lin.)

Ne. *dimidiatus*. *St. Fargeau.—Steph. Catal. 329. No. 3796.*

Head black; apex of the clypeus, mouth and palpi luteous; mandibles fuscous at the tip; antennæ testaceous, with a black line above; thorax bright testaceous, with the disc more or less extensively black; abdomen testaceous; legs also testaceous, with the tips of the 2 posterior tibiæ and tarsi black; wings hyaline, with pitchy nervures, and a brown stigma.

Found in June at Darenth wood; also near Hertford.

Sp. 8. *dorsalis*. *Testaceus, oculis ocellisque nigris, thorace maculis 3-bus dorsalibus fuscis.* (Long. corp. 3—3½ lin.; Exp. Alar. 7—8 lin.)

Ne. *dorsalis*. *St. Fargeau.—Steph. Catal. 329. No. 3797.*

Head and antennæ testaceous; eyes and ocelli black; thorax testaceous, with three fuscous spots on the disc; abdomen and legs pale testaceous; wings hyaline, with the costa pale testaceous, the nervures and stigma fuscous.

Found near London in June.

Sp. 9. *testaceus*. *Corpore toto pallide testaceo, pedibus pallidioribus, alis flavescentibus, stigmatum testaceo.* (Long. corp. 3—3½ lin.; Exp. Alar. 7—8 lin.)

Ne. *testaceus*. *Steph. Nomen. 2d edit. col. 124.*

Head, thorax, abdomen, and antennæ entirely pale testaceous, legs of a paler hue; wings hyaline, yellowish, with the nervures paler, and the stigma testaceous.

Found, not uncommonly, in the vicinity of London, in June.

Sp. 10. *flavescens*. *Testaceo-flavescens, pedibus pallidioribus, oculis ocellisque nigris.* (Long. corp. 3 lin.; Exp. Alar. 6½ lin.)

Ne. *flavescens*. *Steph. Catal. 329. No. 3799.*

Head, antennæ, thorax, and abdomen entirely pale testaceous-yellow; legs paler; eyes and ocelli deep black; tip of mandibles pitchy; wings pale, with yellowish stigma.

Apparently rare: it has been taken in the vicinity of London in June.

Sp. 11. *luteus*. *Testaceus, oculis ocellis sternoque nigris.* (Long. corp. 3—3½ lin.; Exp. Alar. 6½—7½ lin.)

Te. *lutea*. *Fabricius.—Ne. luteus. Steph. Catal. 329. No. 3798.*

Testaceous; eyes and ocelli black; thorax testaceous, sternum black; abdomen and legs immaculate testaceous; wings hyaline, with testaceous nervures and stigma, the latter brownish anteriorly.

Found, not commonly, near London and in Norfolk, in June.

Sp. 12. *melanopsis*. *Pallidus, vertice nigro, abdomine maculis dorsalibus fuscis.* (Long. corp. 3—3½ lin.; Exp. Alar. 6½—7½ lin.)



Ne. melanopsis. *St. Fargeau Mon.* 71.—*Steph. Nomen.* 2d edit. *Appendix.*

Head, thorax, antennæ, and abdomen very pale testaceous, the latter with some obscure fuscous spots on the back, especially the base; crown of the head black; legs very pale; wings hyaline, with pale nervures and stigma.

Also taken in June at Darenth wood.

Sp. 13. viridis. *Flavo-viridis, vertice thoracisque dorso subtestaceis, antennis suprâ, oculis ocellis lineâ abbreviatâ thoracis et maculis dorsalibus abdominis nigro-fuscis, tarsi omnibus fuscescentibus.* (Long. corp.  $4\frac{1}{2}$  lin.; Exp. Alar.  $8\frac{1}{2}$  lin.)

Ne. viridis. *Steph. Catal.* 329. No. 3802.

Pale yellowish-green, with the crown and thorax above somewhat testaceous; antennæ with a dusky line above; eyes and ocelli black; behind these last is a minute black dot on the crown; thorax with a single short black line in front in the middle, metathorax with two minute ones behind; abdomen with some irregular dusky spots at its base, and a longitudinal row of transverse dusky lines, diminishing in length to the apex; legs pale testaceous, with all the tarsi fuscous, wings with greenish nervures and stigma.

Of this large and conspicuous species I have seen my own specimen only, which was taken in the vicinity of London in June.

Sp. 14. varius. *Pallidus, antennis supra fuscis, vertice, thoracis dorso lineâque subalari nigris, abdomine lineâ dorsali interruptâ macularum testaceo-nigrarum.* (Long. corp. 3—4 lin.; Exp. Alar. 6—7 lin.)

Ne. varius. *St. Fargeau Mon.* 69.—*Steph. Nomen.* 2d edit. *Appendix.*

Head pale, crown black; antennæ pale, with the upper surface fuscous; thorax also pale, with the upper part and a streak beneath the wings black; abdomen above pale testaceous, with an interrupted dorsal line of testaceous-black spots, beneath pale; legs anteriorly pale; wings hyaline, with pale nervures.

Found, but not commonly, in the neighbourhood of the metropolis in June.

Sp. 15. miliaris. *Pallidus, vertice oculisque fuscis, thorace lineolis 3-bus nigris, abdomine ad basin maculis dorsalibus fuscis.* (Long. corp. 3— $3\frac{1}{2}$  lin.; Exp. Alar. 6— $7\frac{1}{2}$  lin.)

Te. miliaris. *Panzer.*—Ne. miliaris. *Steph. Catal.* 329. No. 3808.

Very pale testaceous; antennæ with a black streak above; eyes and vertex fuscous; thorax with 3 black streaks; abdomen with transverse black dorsal lines on the 4 or 5 basal segments; legs pale, immaculate; wings hyaline, with the nervures pale.

Not uncommon, in June, within the metropolitan district, occurring near Hertford and Ripley.

Sp. 16. *affinis*. *Niger, antennis subtus, orbitis oculorum, humeris, abdomine subtus et lateribus anoque testaceis, pedibus pallide testaceis, posticis apice fuscis*. (Long. corp.  $2\frac{1}{2}$ — $3\frac{1}{2}$  lin.; Exp. Alar. 5— $6\frac{1}{2}$  lin.)

Ne. *affinis*. *St. Fargeau*.—*Steph. Catal.* 329. No. 3805.

Head black; antennæ black, testaceous beneath; mouth pale; orbits testaceous; thorax with the shoulders testaceous; abdomen black, with the sides, apex, and under surface testaceous; legs pale testaceous, with the two hinder pair brown at the tip; wings hyaline, costa testaceous, nervures and stigma pale fuscous.

Taken, in June, at Coombe wood and other places within the metropolitan district.

Sp. 17. *oblitus*. *Testaceus, vertice abdominisque dorso nigris, thorace fusco vario, antennis supra fuscis*. (Long. corp. 3 lin.; Exp. Alar. 6 lin.)

Ne. *oblitus*. *St. Fargeau Mon.* 69. 209.—*Steph. Catal.* 329. No. 3806.

Head black; mouth pale; orbits testaceous; antennæ black, testaceous beneath; thorax black, with testaceous shoulders; abdomen black, with the under surface, sides, and apex testaceous; legs pale testaceous, the 2 posterior with the apex fuscous; wings hyaline, with the costa testaceous, and the nervures fuscous.

Also taken in the vicinity of London about the middle of June.

Sp. 18. *trimaculatus*. *Testaceus, capite, thoracis maculis 3-bus, sternoque nigris, pedibus posticis apice antennisque supra fuscis*. (Long. corp. 3— $3\frac{1}{2}$  lin.; Exp. Alar. 6 lin.)

Ne. *trimaculatus*. *St. Fargeau Mon.* 69.—*Steph. Nomen.* 2d edit. col. 124.

Head black; mouth and a spot on each side towards the eye testaceous; antennæ testaceous, fuscous above; thorax testaceous, with 3 dorsal spots, placed anteriorly, and the sternum black; abdomen entirely testaceous, with the tip of the ovipositor black; legs pale testaceous, with the apex of the two posterior fuscous; wings hyaline, with the nervures pale.

Not uncommon: taken in the neighbourhood of London in June.

Sp. 19. *Salicis*. *Pallide testaceus, antennis supra vertice thoracisque dorso nigris, tarsis posticis fuscis*. (Long. corp.  $2\frac{1}{2}$ — $3\frac{1}{2}$  lin.; Exp. Alar.  $5\frac{1}{2}$ —7 lin.)

Te. *Salicis*. *Fabricius*.—Ne. *Salicis*. *Steph. Catal.* 329. No. 3795.

Pale-testaceous; antennæ above black, beneath bright testaceous; crown black; thorax black above; hinder tarsi fuscous; wings hyaline, with fuscous nervures and stigma.

Sternum sometimes black or fuscous.

Not uncommon in the vicinity of the metropolis in June.

Sp. 20. *fuscipennis*. *Niger, antennis subtus, ore, punctis 2-bus metathoracis abdominis apice, pedibusque testaceis, tibiis 2-bus posticis et tarsorum articulis*



*omnibus apice fuscis, alis fuscis, apice hyalinis.* (Long. corp.  $3\frac{1}{2}$ —4 lin.; Exp. Alar. 6—7 lin.)

Ne. fuscipennis. *St. Fargeau.—Steph. Nomen. 2d edit. col. 124.*

Head black; mouth and a spot on each side above the eyes testaceous; thorax black, with a geminated testaceous spot behind; abdomen rusty-testaceous, black at the base; legs testaceous, the 2 hinder tibiæ and tips of all the joints of the tarsi fuscous; wings brown at the base, the apex somewhat hyaline, the nervures fuscous, and the stigma testaceous.

Apparently rare: found at Birch wood, and at Coombe, in June.

Sp. 21. bipartitus. *Testaceus, antennis supra capite thoracis dorso scutello, sternoque et segmento 1-mo abdominis nigris, ore pallido.* (Long. corp.  $2\frac{1}{2}$ — $3\frac{1}{4}$  lin.; Exp. Alar.  $4\frac{3}{4}$ —6 lin.)

Ne. bipartitus. *St. Fargeau.—Steph. Catal. 329. No. 3808.*

Antennæ black, testaceous beneath; head black, with the mouth, clypeus, and a spot on each side on the crown testaceous; thorax testaceous, its back, scutellum, and sternum black; abdomen bright testaceous, the 1st segment black, or with a transverse streak of that colour; legs entirely testaceous; wings hyaline, with testaceous nervures.

Taken in July within the metropolitan district, but rare.

Sp. 22. apicalis. *Niger, antennis subtus, ore, clypeo, humeris abdomine (basi excepta) pedibusque totis rufo-testaceis.* (Long. corp. 3 lin.; Exp. Alar.  $5\frac{1}{2}$  lin.)

Me. apicalis. *Steph. Nomen. 2d edit. col. 124.*

Head black, with the orbits above, the mouth, and the antennæ beneath testaceous, the latter above black; thorax black, with the shoulders testaceous; abdomen light red-testaceous, with the two basal segments black; metathorax with two yellowish spots; legs entirely pale red-testaceous; wings hyaline, slightly fuscous, with the nervures pitchy, the costa and stigma pale testaceous, the base of the latter fuscous.

Found near London in June, at Coombe wood.

Sp. 23. Ribesii. *Testaceus, capite antennis supra thorace (humeris exceptis) sterno abdominisque basi nigris.* (Long. corp.  $2\frac{1}{2}$ —3 lin.; Exp. Alar. 5— $5\frac{3}{4}$  lin.)

Ne. Ribesii. *Steph. Catal. 329. No. 3809.*

Head black, with the labrum and antennæ beneath testaceous; thorax black, the shoulders testaceous, abdomen testaceous, with the 2 basal segments black; sternum black, pleuræ pale testaceous; metathorax with 2 whitish elevated dots; legs totally pale testaceous; wings hyaline, whitish, with pale testaceous brown nervures, and the costa and stigma also testaceous, the latter of an uniform tint.

The larva feeds on the common red-currant.

Taken in gardens in the vicinity of the metropolis.

Sp. 24. pavidus. *Testaceus, antennis, vertice, thoracis dorso sternoque et maculâ subquadratâ basi abdominis nigris.* (Long. corp. 2—3½ lin.; Exp. Alar. 4½—6 lin.)

Ne. pavidus. *St. Fargeau Mon.* 65.—Ne. bicolor. *Steph. Catal.* 329. No. 3807.

Head testaceous, crown and antennæ black; thorax testaceous, with its back and the sternum black; abdomen testaceous, with a nearly square black spot on the basal segment; legs entirely testaceous; wings hyaline, with testaceous nervures and stigma, the last and costa fuscous in the females.

Taken at Hertford, and in other places within the metropolitan district, frequenting gardens, in June: it feeds, I believe, on the gooseberry.

Sp. 25. interruptus. *Niger, ore, clypeo, maculâque ad verticem, humeris pedibusque testaceis, abdomine testaceo segmentorum baseos lineâ transversali nigrâ.* (Long. corp. 3—4 lin.; Exp. Alar. 5—6½ lin.)

Ne. interruptus. *St. Fargeau.*—*Steph. Catal.* 329. No. 3810.

Head and antennæ black, with the mouth, clypeus, and a spot on each side of the crown testaceous; thorax black, with the shoulders testaceous; abdomen pale testaceous, with a transverse black line at the base of each segment; legs entirely testaceous; wings hyaline, with testaceous nervures.

Common in woods and copses within the metropolitan district in June: taken also in Scotland.

Sp. 26. melanosternus. *Pallide testaceus, antennis vertice, thoracis maculis 3-bus dorsalibus sternoque nigris, abdominis segmentis primis supra tarsisque fuscis.* (Long. corp. 2½—3 lin.; Exp. Alar. 6—7 lin.)

Ne. melanosternus. *St. Fargeau.*—*Steph. Nomen.* 2d edit. col. 124.

Head pale testaceous, antennæ and crown black; thorax also pale testaceous, with 3 black spots on its disc, sometimes closely approximating; sternum black; abdomen pale testaceous, with the anterior segments more or less fuscous at the base; legs pale testaceous, with fuscous tarsi; wings hyaline, with the nervures pale testaceous, costa and stigma pale greenish or testaceous.

Not uncommon at Darenth wood in June; also found in Scotland.

Sp. 27. Capreæ. *Flavus, vertice, thoracis dorso, abdomineque supra nigris.* (Long. corp. 3—3½ lin.; Exp. Alar. 6—7½ lin.)

Te. Capreæ. *Fabricius.*—Ne. Capreæ. *Steph. Catal.* 329. No. 3801. *Albin. pl.* 59. f. g. h. ?

Head yellow, with the crown black; thorax also yellow, with its disc black; abdomen yellow, with its upper surface black; legs pale; wings hyaline, with the nervures yellow.

Taken near willows, not uncommonly, in June, within the metropolitan district.



Sp. 28. vittatus. *Pallidus, antennis, ocellis, thoracis et metathoracis maculis 2-bus, segmentorum abdominis basi nigris.* (Long. corp. 3—4 lin.; Exp. Alar. 5—6 $\frac{1}{4}$  lin.)

Ne. vittatus. *St. Fargeau.—Steph. Catal. 329. No. 3803.*

Head pale, with black ocelli and antennæ; thorax also pale, with the disc testaceous, and having 2 or 3 black spots, and 2 also on the metathorax; abdomen pale, with the base of all the segments broadly black, the margin pale; legs pale; wings hyaline, with the nervures and stigma testaceous.

Found at Coombe wood, and in Scotland, in June.

Sp. 29. fallax. *Pallide-testaceus, antennis, vertice, thorace, abdominisque basi supra nigris, hoc apice luteo, femoribus subtus nigro-lineatis.* (Long. corp. 3—4 lin.; Exp. Alar. 6—7 $\frac{1}{2}$  lin.)

Ne. fallax. *St. Fargeau.—Steph. Catal. 329. No. 3804.*

Head pale testaceous, antennæ and crown black; thorax black, with the shoulders and sides pale testaceous; abdomen black above, with the apex luteous, beneath pale testaceous; legs also pale testaceous, the femora beneath with black lines; wings hyaline, with pale nervures.

Variable: the head, entire thorax, and abdomen beneath being sometimes black, and the metathorax is occasionally whitish, spotted with black.

Also found in the vicinity of London in June, and in Scotland.

Sp. 30. tæniatus. *Niger, labro orbitisque oculorum verticali testaceis, thorace lineolâ anticâ, abdominisque segmentis omnibus tenuissime pallidis, femoribus 4 anticis pallido lineatis, tibiisque omnibus basi pallidis.* (Long. corp. 3 $\frac{1}{2}$ —4 lin.; Exp. Alar. 5 $\frac{1}{2}$ —6 $\frac{1}{2}$  lin.)

Ne. tæniatus. *St. Fargeau Mon —Steph. Nomen. 2d edit. col. 124.*

Head and antennæ black; labrum and upper orbits of the eyes testaceous; thorax black, with a pale streak in front; abdomen black, with the extreme edge of all the segments whitish; legs black, with the 4 anterior femora with pale streaks in front, and the base of all the tarsi pale; wings hyaline; with black nervures, and the costa pale, stigma the same.

Not common: found in the vicinity of London; also in Norfolk and in Scotland, towards the end of June.

Sp. 31. gonymelas. *Pallide testaceus, antennis capite (maculis 2 verticalibus exceptis) thoracis disco, abdominis segmentorum basi, sterno, genuisque posticis nigris.* (Long. corp. 3 $\frac{1}{4}$  lin.; Exp. Alar. 6 $\frac{1}{2}$  lin.)

Ne. gonymelas. *Steph. Catal. 329. No. 3812.*

Head black, with a testaceous spot on each side adjoining the eyes above; mouth and clypeus also pale testaceous; thorax testaceous, with the disc and sternum black; abdomen pale testaceous, immaculate beneath, but each segment above with a broad transverse black streak at the base; legs pale testaceous, with the tarsi of the hinder pair fuscous, and their knees black; wings hyaline, with the nervures pale testaceous, the costa and stigma greenish.

Taken in June, near London.

Sp. 32. *Suessionensis*. *Niger, ore, pedibusque pallide testaceis, tarsi postici fuscis.* (Long. corp.  $2\frac{1}{2}$ —3 lin.; Exp. Alar.  $5\frac{1}{2}$ —6 lin.)

Ne. *Suessionensis*. *St. Fargeau Mon.* 66. No. 196.—*Steph. Nomen.* 2d edit. col. 124.

Head, thorax, abdomen, and antennæ black; legs pale testaceous, with the posterior tarsi fuscous; mouth pale testaceous; wings hyaline, with the nervures and stigma whitish or pale.

Found, in June, within the metropolitan district, and at Dover.

Sp. 33. *analys*. *Niger, abdominis segmentorum marginibus et subtus apiceque testaceis, femorum apicibus tibiisque tarsisque rufo-testaceis.* (Long. corp. 3— $3\frac{1}{4}$  lin.; Exp. Alar.  $6\frac{1}{2}$ — $7\frac{1}{2}$  lin.)

Ne. *analys*. *Steph. Catal.* 329. No. 3813.

Head and antennæ totally black; thorax also black, immaculate; abdomen above testaceous, with the base of all but the 2 apical segments black above, and the last 2 and entire under surface rufo-testaceous; sternum and pleuræ black; legs, with the coxæ, trochanters, and base of all the femora black, the apex of the last, and the entire tibiæ and tarsi bright rufo-testaceous; wings hyaline, pale, with the nervures pitchy, and the costa and stigma bright pale testaceous.

Taken in the neighbourhood of London in June, at Darenth wood, &c.

Sp. 34. *hæmorrhoidalis*. *Niger, clypeo maculâ utrinque ponè oculos, abdominisque apice albis, pedibus pallidis, coxis femorumque basi nigris.* (Long. corp. 3—4 lin.; Exp. Alar.  $6\frac{1}{2}$ —8 lin.)

Ne. *hæmorrhoidalis*. *St. Fargeau Mon.* 65.—*Steph. Nomen.* 2d edit. col. 124.

Head and antennæ black; clypeus, the base of the mandibles, and a spot on each side behind the eyes white; thorax with a geminated yellow spot behind; abdomen black, with the extreme tip whitish above and white beneath; legs pale, with the coxæ and base of the femora black; wings hyaline.

Found near London, in June, and in Scotland.

Sp. 35. *fuscipennis*. *Niger, palpis, pedibus, abdominisque apice rufo-testaceis, alis basi fuscescentibus apice pallido, stigmatibus bicoloratâ.* (Long. corp.  $3\frac{3}{4}$  lin.; Exp. Alar.  $5\frac{3}{4}$  lin.)

Ne. *fuscipennis*. *Steph. Nomen.* 2d edit. col. 124.

Head, antennæ, and thorax bright shining black; palpi of a rather pitchy testaceous-red; abdomen bright pitchy testaceous-red, with the two basal segments above black; legs entirely testaceous-red; wings with the base pitchy-brownish, the apex hyaline and pale; nervures pitchy; costa and base of the stigma brown, apex of the latter testaceous.

Taken near Dartford in June, apparently rare.

Sp. 36. *melanostigma*. *Niger, pedibus pallidis, femoribus 4 posterioribus, tar-*



*sisque posticis nigricantibus, alis hyalinis, stigmatе utro.* (Long. corp. 4 lin.; Exp. Alar. 8 lin.)

Ne. melanostigma. *Steph. Catal.* 329. No. 3811.

Black; legs pale, the 4 posterior fuscous, except at the extreme base and apex, and the 2 hinder tarsi entirely dusky; wings hyaline, with the nervures and costa fuscous, the stigma black.

Found near London, in June.

Sp. 37. ruficornis. *Niger, ore piceo, palpis pallidis, pedibus nigris pallido variis, antennis piceo-testaceis, articulis 2-bus baseos piceis.* (Long. corp.  $2\frac{1}{2}$ —3 lin.; Exp. Alar.  $4\frac{1}{2}$ — $6\frac{1}{4}$  lin.)

Ne. ruficornis. *St. Fargeau.—Steph. Catal.* 329. No. 3814.

Head black; mouth pitchy; palpi pale; antennæ pitchy-testaceous, with the 2 basal joints pitchy; thorax and abdomen entirely black; 4 anterior legs with the base of the femora black; 2 posterior with the femora black, pale at the base, their tibiæ pale, and tarsi black; wings hyaline, with the nervures, costa, and stigma fuscous.

Abundant throughout the metropolitan district, as at Hertford, Coombe, Darenth, Ripley, &c.; also at Dover and in Scotland, at the end of June and beginning of July.

Sp. 38. intercus. *Niger, ore, puncto ad alarum basin humerisque pallidis, oculorum orbitis posticis pedibusque testaceis.* (Long. corp.  $2\frac{3}{4}$ — $3\frac{1}{4}$  lin.; Exp. Alar. 5— $6\frac{1}{2}$  lin.)

Te. intercus. *Panzer.—Ne. intercus.* *Steph. Catal.* 329. No. 3816.

Head and antennæ black; mouth pale; orbits of the eyes testaceous behind; thorax black, with a dot at the base of the wings, and the shoulders pale; abdomen totally black; legs pale testaceous: wings hyaline, nervures and costa pale.

Also common in the neighbourhood of London in June, and taken at Dover: frequenting willows.

Sp. 39. gallicola. *Niger, nitidus, pedibus totis pallide rufescentibus, squamis pallide testaceis, stigmatе bicoloratâ.* (Long. corp.  $1\frac{3}{4}$ —2 lin.; Exp. Alar. 4— $4\frac{1}{2}$  lin.)

Ne. gallicola. *Westwood MS.—Steph. Nomen.* 2d. edit. col. 125.

Shining black; legs entirely of a very pale reddish tint, with the posterior tarsi a little dusky; scales of the wings pale testaceous; wings pale, the nervures slightly testaceous at the base, fuscous at the tip; costa pale fuscous, base of the stigma testaceous, apex fuscous.

Taken near London in June, the larva forming galls on the leaves of willows.

Sp. 40. proximus. *Niger, ore, puncto ad alarum basin tibiisque pallidis, femoribus tarsisque subfuscis, abdomine subtus lineâ luteâ mediâ.* (Long. corp. 2— $2\frac{1}{4}$  lin.; Exp. Alar.  $4\frac{1}{2}$ —5 lin.)

*Ne. proximus.* *St. Fargeau.*—*Steph. Catal.* 329. No. 3815.

Head, antennæ, and thorax black; mouth pale; dot at the base of the wings and the tibiæ also pale; femora and tarsi brownish; abdomen beneath with a luteous streak in the middle; wings hyaline, with the nervures fuscous, the costa and base of the stigma pale.

Less abundant than the last, but it occurs throughout the metropolitan district in June.

*Sp. 41. niger.* *Niger, collare, humeris punctisque duobus metathoracis luteis, pedibus fusco-testaceis, mandibulis apice ferrugineis.* (Long. corp.  $2\frac{1}{2}$ —3 lin.; Exp. Alar. 5— $6\frac{1}{4}$  lin.)

*Pte. niger.* *Jurine.*—*Ne. niger.* *Steph. Catal.* 329. No. 3817.

Head and antennæ black; mandibles ferruginous at the tip; thorax black, the collar and shoulders, with 2 spots on the metathorax, luteous; abdomen black; legs dusky-testaceous; wings hyaline, with the nervures black.

Not common: found within the metropolitan district, in June.

*Sp. 42. nigricornis.* *Testaceus, antennis, vertice, thorace (humeris exceptis) abdominisque basi supra nigris, hoc apice luteo, pedibus pallide testaceis, tarsis posticis fuscis.* (Long. corp.  $4\frac{1}{2}$  lin.; Exp. Alar.  $7\frac{1}{2}$  lin.)

*Ne. nigricornis.* *St. Fargeau.*—*Steph. Catal.* 329. No. 3818.

Head pale testaceous, with the crown and antennæ black; thorax also black, with the shoulders pale testaceous; abdomen black above, with the apex luteous, beneath pale testaceous; legs pale testaceous, with the hinder tarsi fuscous; wings hyaline, with paler nervures.

Rare: found near London in June.

*Sp. 43. lucidus.* *Niger, ore luteo, humeris pedibusque testaceis, tarsis posticis nigris, abdominis segmentis 2-bus anterioribus maculâ utrinque testaceâ.* (Long. corp.  $4\frac{1}{2}$ —5 lin.; Exp. Alar. 6—8 lin.)

*Te. lucida.* *Panzer.*—*Ne. lucidus.* *Steph. Catal.* 329. No. 3819.

Head and antennæ black; mouth luteous; thorax black, with testaceous shoulders; abdomen black, with a luteous spot on each side of the 2 basal segments; legs testaceous, with the hinder tarsi black; wings hyaline, with the stigma black, and the nervures dusky.

Also rare: taken occasionally at Darenth wood, about the beginning of June.

*Sp. 44. cinctus.* *Niger, mandibulis apice, palpis, humeris, pedibusque testaceis, tarsis posticis nigris, abdomine segmentis 2-do, 3-tio, et 4-to testaceis.* (Long. corp.  $4\frac{1}{2}$ —5 lin.; Exp. Alar.  $6\frac{1}{2}$ — $8\frac{1}{2}$  lin.)

*Ne. cinctus.* *St. Fargeau Mon.* 66.—*Steph. Nomen.* 2d edit. Appendix.

Head and antennæ black; mandibles at the apex and the palpi testaceous; thorax black, with the shoulders testaceous; abdomen black, with the 2nd, 3rd, and 4th segments testaceous; legs also testaceous, with the 2. hinder tarsi black; wings hyaline, with fuscous nervures and stigma.



The male has some black spots on the testaceous segments of the abdomen.

More abundant than the last; found in the vicinity of London, at Coombe and Darenth woods, and also at Dover in the beginning of June.

Sp. 45. *vicinus*. *Niger*, *mandibulis apice palpisque piceo-nigris*, *pedibus testaceis*, *femoribus basi infumatis*, *tibiis 2-bus posticis apice tarsisque fuscis*. (Long. corp.  $4\frac{1}{2}$ — $5\frac{1}{4}$  lin.; Exp. Alar.  $7\frac{1}{2}$ — $9\frac{1}{2}$  lin.)

Ne. *vicinus*. *St. Fargeau*.—*Steph. Nomen*. 2d edit. col. 125.—Ne. *consobrinus*. *Steph. Catal.* 329. No. 3820.

Head and antennæ black; mandibles at the apex and the palpi pitchy-black; thorax and abdomen black; legs testaceous, with the base of the femora sometimes dusky, or black, the 2 hinder tibiæ at the apex, which is slightly dilated, and the tarsi fuscous; wings hyaline, with the costa and nervures at the base testaceous, brown at the tip.

The basal joint of the hinder tarsi is slightly dilated in this species.

Rare: taken occasionally at Darenth wood, in June.

### GENUS XIII.—CRÆSUS, *Leach*.

*Antennæ* 9-jointed, simple in both sexes, slightly pilose in the males, basal joint short, 2nd shorter, 3rd longest, the remainder gradually decreasing in length to the apex, which is attenuated: *mandibles* unidentate: *labrum* rounded: *head* broad: *ocelli* 3: *abdomen* cylindric in the males; broader and somewhat carinated in the females: *wings* ample; anterior with 1 marginal, and 4 submarginal areolets, the 1st small, subquadrate, 2nd large, elongate, receiving 2 recurrent nervures, 3rd small, quadrate, 4th extending to the apex: 4 anterior *legs* simple; posterior rather stout, their tibiæ dilated at the apex; *tarsi* with the basal joint longest, considerably dilated and compressed, remaining joints small, simple.

Exclusively of other less conspicuous differences, *Cræsus* differs from *Nematus* in having the hinder tibiæ and the basal joint of the hinder tarsi considerably dilated and compressed, a structure that partially obtains in *Ne. vicinus*, but that insect is sufficiently removed by its general habit; and as there are evidently several good species of *Cræsus*, it ought clearly to be considered as distinct from *Nematus*, intervening forms, as elsewhere pointed out, not alone being sufficient to unite discordant genera.

Sp. 1. *septentrionalis*. *Niger*, *palpis piceis*, *abdominis medio tibiisque anterioribus ferrugineis*, *alis hyalinis pone medium subinfuscat*. (Long. corp.  $4$ — $4\frac{3}{4}$  lin.; Exp. Alar.  $9$ — $9\frac{1}{2}$  lin.)

Te. *septentrionalis*. *Linné*.—*Cr. septentrionalis*. *Steph. Catal.* 330. No. 3821.

Black: palpi pitchy; abdomen with the 3rd to the 6th segments ferruginous, and in the females a spot on the 7th; anterior legs black at the base, the

apex of the femora, the tibiæ and tarsi pale reddish, intermediate with the femora black; tibiæ and tarsi pitchy-black; posterior black, with the tip of the coxæ, the trochanters and the base of the tibiæ pale ochreous, or whitish; wings hyaline, with the stigma blackish, and a faint fuscous cloud annexed thereto.

The intermediate segments of the abdomen are sometimes pitchy or blackish: probably referrible to a distinct species.

The larva of this species feeds on the gooseberry.

Found at Barnet; also at Darent, near Hertford, Dublin, and in the north of England in June, but not very common.

Sp. 2. varus? *Niger, clypeo palpisque albidis, humeris piceis, abdominis medio femoribusque omnibus ferrugineis, posticis apice nigris.* (Long. corp.  $3\frac{1}{2}$  lin.; Exp. Alar.  $6\frac{1}{2}$  lin.)

Nem. varus. *Annales Soc. Ent. France (De Villaret) i. 306. pl. xi. f. 8. ♂ ?*—Cr. varus? *Steph. Nomen. 2nd edit. Appendix.*

Black; clypeus and palpi whitish; shoulders pitchy; abdomen black at the base, with the 3rd to the 5th, and base of the 6th segments ferruginous; 4 anterior legs pale ferruginous; posterior with the coxæ black; trochanters whitish; femora ferruginous, with the tips dusky; tibiæ black, with the base white; tarsi with the basal joint pitchy; wings hyaline, unclouded, the costa slightly reddish, nervures and stigma dusky.

Of this insect I have a single example, which was taken at Birch wood in the beginning of June.

Sp. 3. laticrus. *Niger, palpis rufescentibus, abdominis medio ferrugineo, alis hyalinis, pone medium fasciâ subferrugineo-fuscescente.* (Long. corp.  $4\frac{1}{2}$ —5 lin.; Exp. Alar.  $9\frac{1}{2}$ — $10\frac{1}{2}$  lin.)

Nem. laticrus. *Ann. Soc. Ent. France (De Villaret) v. i. 307. pl. xi. f. 7. ♀.*—Cr. laticrus. *Steph. Nomen. 2d edit. Appendix.*—Cr. septentrionalis. *Curtis, i. pl. 17. ♀ ?*

Black: palpi reddish; abdomen with the 3rd to the 6th segments ferruginous, a streak of the same at the base of the 2nd, and a bifid spot on the 7th; anterior legs black, with the apex of the femora ferruginous in front, the tibiæ and tarsi whitish-red, brownish at the tip; intermediate black, with the tibiæ and tarsi pitchy; the former whitish at the base; posterior black, with the tip of the coxæ, the trochanters, and the base of the tibiæ, ochreous-white, the latter brightest; wings hyaline, faintly reddish, with a distinct, somewhat obscurely ferruginous, clouded fascia beyond the middle, extending from the base of the stigma to the posterior margin.

I have one example of this fine insect that was taken near London, and a second I obtained from the Marshamian collection: it has, it would appear, been taken at Bungay in Suffolk, if my reference be correct.



- § 5. *Antennæ* short, 9 or 10-jointed, with the appearance of an 11th, thickened in the middle, and acuminate at the apex, the 3rd joint longer than the 4th; *body* short and stout.

#### GENUS XIV.—MESSA, *Leach*.

*Antennæ* rather slender, 9-jointed, two basal joints short and robust, 3rd elongate, 4th shorter, remainder gradually diminishing in length to the apex: *mandibles* small: *labrum* rounded: *head* transverse: *wings* ample; anterior with 1 marginal areolet, and 4 submarginal ones, the 1st small, rounded, 2nd elongate, 3rd quadrate, 4th extending to the apex: *body* short, acute at the apex: *legs* slender, simple, *tibiæ* with two short acute spurs at the tip.

From the other genera of this section *Messa* may be recognized by the number of areolets in the anterior wings, there being but 1 marginal, and 4 submarginal ones, thereby agreeing in neuration with the insects of the preceding section, from which, however, it differs in the antennæ, &c.

Sp. 1. *hortulana*. *Nigra, ore albo, pleuris pedibusque luteis*. (Long. corp.  $1\frac{3}{4}$  lin.; Exp. Alar.  $4\frac{1}{4}$  lin.)

Te. (Em.) *hortulana*. *Klug*.—Me. *hortulana*. *Steph. Catal.* 330. No. 3822.

Black: antennæ brownish at the apex; labrum and clypeus white; mandibles white, with the apex pitchy; shoulders white; thorax with a yellowish pile; pleuræ luteous; legs also luteous; wings hyaline, with the nervures and stigma brownish.

Apparently very rare: found within the metropolitan district, in June, and in Devonshire.

#### GENUS XV.—FENUSA, *Leach*.

*Antennæ* short, somewhat clavate, 9-jointed, the 2 basal joints minute, 3rd elongate, 4th shorter, the remainder distinct, somewhat moniliform, gradually diminishing in length to the apex, which is obtuse: *labrum* emarginate: *mandibles* short, dentate within: *head* broad, transverse: *ocelli* 3: *wings* ample; anterior with 2 marginal areolets of nearly equal size, and with 3 dissimilar submarginal ones, the 1st elongate, narrow and curved, 2nd larger, broader, somewhat triangular, receiving 1 recurrent nervure; 3rd extending to the apex; *body* short and stout: *legs* simple; *tibiæ* with a pair of short acute spurs at the apex.

The want of a fourth submarginal areolet, combined with the presence of 2 marginal ones, and the short, subclavate, 9-jointed antennæ serve to distinguish this genus from its allies; the species of which it is composed are amongst the smallest of those included in this family.

Sp 1. *pumila*. *Nigra, nitida, alis nigricantibus, pedibus testaceis, femoribus basi nigro-fuscis*. (Long. corp.  $1\frac{1}{2}$  lin.; Exp. Alar.  $3\frac{1}{2}$ — $4\frac{1}{2}$  lin.)

Te. (All.) *pumila*. *Klug.*—Fe. *pumila*. *Steph. Catal.* 330. No. 3823.

Glossy-black; mandibles dusky at the apex; abdomen with a palish margin to the 2nd joint; legs pale testaceous, with the femora (except at the apex) dusky-black; the base of the tibiæ sometimes whitish, and wings blackish, with the nervures darker, the costa and stigma black; antennæ slightly compressed, as long as the abdomen.

Not uncommon within the metropolitan district, on the borders of woods, especially about Darenth wood and near Ripley, in June.

Sp 2. *nana*. *Nigra subnitida, collaris margine utrinque alarumque squamis albis, pedibus testaceis, femoribus basi fuscis, alis hyalinis medio subfuscis, antennis thorace sublongioribus fuscis*. (Long. corp.  $1\frac{3}{8}$ — $1\frac{3}{4}$  lin.; Exp. Alar.  $4$ — $4\frac{1}{2}$  lin.)

Te. (All.) *nana*. *Klug.*—Se. *nana*. *Steph. Catal.* 332. No. 3856.

Black, slightly shining; anterior margin of the collar and scales at the base of the wings white; legs testaceous, with the base of the femora fuscous; antennæ about as long as the thorax, fuscous; wings hyaline, slightly clouded with fuscous in the middle; nervures, costa and stigma brown.

Rare; found near London: a single example taken on the 20th of June last on Forest Hill, Dulwich.

Sp 3. *pygmæa*. *Nigra, nitida, alis fusco-hyalinis, squamis pedumque tibiis tarsisque albis*. (Long. corp.  $1\frac{1}{2}$  lin.; Exp. Alar.  $3\frac{1}{2}$ — $4$  lin.)

Te. (All.) *pygmæa*. *Klug.*—Fe. *pygmæa*. *Steph. Catal.* 330. No. 3824.

Shining black; mandibles reddish-brown at the tip; legs short, with the extreme apex of the femora, the tibiæ and tarsi white, the tibiæ a little darker and whitish at the apex; wings hyaline-fuscous, with the nervures, costa and stigma darker, the basal scale white; antennæ as long as the thorax.

Less abundant than the last; found about the same period of the year in woods: I took a specimen at Forest Hill on the 28th of June last.

## GENUS XVI.—ATHALIA, *Leach*.

*Antennæ* somewhat clavate, 10-jointed, the articulations rather indistinct, the 3rd joint longest, the 4th slightly shorter, the remainder very short, somewhat moniliform, the apical joint rather obtuse, with an obscure suture: *labrum* generally rounded in front: *mandibles* rather short and acute, bidentate: *head* transverse: *ocelli* 3: *wings* ample; anterior with 2 nearly equal marginal areolets, and 4 unequal submarginal ones, the 1st small, subangulated; 2nd also small, somewhat quadrate, 3rd elongate, irregular, 4th extending to the apex; the 2nd receiving 1 recurrent nervure, the 3rd 2:



*body* short, acute : *legs* slender, simple, the *tibiæ* furnished at the apex only, with 2 acute spurs ; *tarsi* with each joint generally tipped with black.

Athalia, by possessing 4 submarginal and 2 marginal areolets, with short 10-jointed antennæ, the terminal joint being apparently divided, &c. may be distinguished from *Messa* and *Fenusa* with facility : the species included in the genus have a great similarity to each other, and a very peculiar habit ; they are not very dissimilar in appearance to some species of *Hylotoma*, but the great discrepancy in the antennæ at once serves to discriminate them.

Sp. 1. *spinarum*. *Luteo-flava, thoracis dorso maculâ triangulari duplici, tibiis tarsorumque articulis apice nigris*. (Long. corp.  $3\frac{1}{2}$  lin. ; Exp. Alar. 7—8 lin.)

Te. *spinarum*. *Fabricius*.—At. *spinarum*. *Steph. Nomen. 2d edit. col. 125*.

Head pale luteous, with the crown black ; eyes the same ; antennæ fuscous above, yellow beneath, the 2 basal joints entirely luteous ; thorax luteous, with a triangular black patch on each side ; abdomen dusky-black at the base, the remainder bright luteous ; legs luteous, with the extreme tip of all the tibiæ, and of each joint of the tarsi black ; wings pale testaceous at the base, with the nervures the same, fuscous at the apex, which is pale ; costa and stigma pale testaceous.

This appears to be a very rare species ; my specimen was taken at Darenth wood, several years since, in June.

Sp. 2. *Centifoliæ*. *Luteo-flava, antennis, capite, thoracis dorso maculâ triangulari duplici, tibiis tarsorumque articulis apice nigris*. (Long. corp. 3—4 lin. ; Exp. Alar. 7— $8\frac{1}{4}$  lin.)

Te. *Centifoliæ*. *Panzer*.—At. *Centifoliæ*. *Steph. Nomen. 2d edit. col. 125*.

Head and antennæ black ; mouth yellowish ; thorax luteous, with a large triangular black patch on each side, extending to the metathorax ; abdomen pale luteous, with the base of the 1st segment black, and the tip of the ovipositor in the female ; legs pale luteous, with the extreme apex of the tibiæ and of each joint of the tarsi black ; wings pale testaceous at the base, colourless, and with nervures fuscous at the tip ; costa and stigma fuscous or blackish.

Not uncommon : found at Darenth and Coombe woods towards the end of June and in July.

Sp. 3. *cordata*. *Testacea, antennis, capite, thoracis disco, maculâ ad basin abdominis, tibiis tarsorumque articulis apice nigris, ore albido*. (Long. corp. 2— $2\frac{1}{2}$  lin. ; Exp. Alar. 5—6 lin.)

At. *cordata*. *St. Fargeau Mon. 22*.—*Steph. Nomen. 2d edit. col. 125*.

Antennæ and head black ; mouth and clypeus anteriorly whitish ; apex of the mandibles fuscous ; thorax black ; beneath in front and at the base of the wings testaceous ; abdomen testaceous, with a somewhat heart-shaped black spot at the base of the 1st segment ; legs testaceous, with the tips of the

tibiæ and of each joint of the tarsi black ; wings hyaline, with the nervures testaceous at the base, dusky or black at the apex, costa and stigma black.

Not uncommon in the neighbourhood of London, frequenting woods, &c. in June.

Sp. 4. *lineolata*. *Testacea, antennis, capite, thoracis dorso et lineolâ transversali infra, abdominis segmento 1-mo basi, tibiis 2-bus posticis et tarsorum 4 posteriorum articulis apice nigris.* (Long. corp. 2—2 $\frac{3}{4}$  lin. ; Exp. Alar. 5—6 $\frac{1}{2}$  lin.)

Al. *lineolata*. *St. Fargeau Mon. 22.—Steph. Nomen. 2d edit. Appendix.*

Antennæ and head black ; mouth and clypeus white ; thorax black above, with the sides testaceous, beneath testaceous, with a transverse black streak ; abdomen testaceous, with the base of the 1st segment black ; legs testaceous, with the 2 hinder tibiæ at the apex, and the tips of each joint of the tarsi, black ; wings hyaline, the nervures testaceous at the base, blackish at the tip. The male has the antennæ luteous beneath, and the intermediate tarsi entirely luteous.

Abundant on the downs of Sussex, near Newhaven and Brighton, in the beginning of August.

Sp. 5. *ancilla*. *Testacea, antennis supra capite thoracis dorso, abdominis segmento 1-mo supra, tibiis tarsorumque articulis apice nigris.* (Long. corp. 2—3 lin. ; Exp. Alar. 5 $\frac{1}{2}$ —6 $\frac{1}{2}$  lin.)

At. *ancilla*. *St. Fargeau Mon. 22.—Steph. Nomen. 2d edit. Appendix.*

Antennæ black, beneath testaceous ; head black, with the mouth and clypeus whitish ; mandibles fuscous at the apex ; thorax testaceous, black above ; abdomen testaceous, with the 1st segment black above ; legs testaceous, with the apex of the tibiæ of each joint of the tarsi black ; wings hyaline, with the nervures, costa, and stigma testaceous. The male has the anterior legs entirely testaceous.

Also found within the metropolitan district, in July.

Sp. 6. *Suessionensis*. *Testacea, antennæ supra, capite, thorace posticè, abdominis segmento 1-mo supra, tibiis tarsorumque articulis apice nigris.* (Long. corp. 2 $\frac{1}{2}$ —3 lin. ; Exp. Alar. 5—6 lin.)

At. *Suessionensis*. *St. Fargeau Mon. 22.—At. apicalis. Steph. Nomen. 2d edit. col. 125.*

Antennæ black, testaceous beneath ; head black, with the mouth and clypeus in front white ; thorax black, testaceous in front ; abdomen testaceous, with the 1st segment black above ; legs also testaceous, with the tips of the tibiæ and of the joints of the tarsi black ; wings pale testaceous, with the nervures concolorous.

Taken near Hertford in June.

Sp. 7. *Rosæ*. *Lutea, thoracis dorso tarsorumque annulis nigris, alis basi flavescens, costâ dimidiatâ nigrâ.* (Long. corp. 2 $\frac{1}{2}$ —3 $\frac{1}{4}$  lin. ; Exp. Alar. 5 $\frac{1}{2}$ —7 lin.)



Te. Rosæ. *Linné*.—At. Rosæ. *Steph. Catal.* 330. No. 3826.

Head and antennæ black ; thorax luteous, with its disc black ; abdomen also luteous, with the base dusky ; legs testaceous, with the extreme apex of the tibiæ and of the joints of the tarsi black ; wings yellowish at the base, the apex pale ; costa and stigma black.

Found, but not very commonly, at Darenth and Coombe woods, in June and July.

Sp. 8. annulata. *Lutea, antennis, capite, thorace toto, abdominisque 1-mo segmento, tarsisque posticis nigris, his albo annulatis.* (Long. corp.  $2\frac{1}{2}$ —3 lin. ; Exp. Alar. 5—6 lin.)

Hy. annulata. *Fabricius*.—At. annulata. *Steph. Catal.* 330. No. 3827.

Head and antennæ black ; labrum white ; thorax black, immaculate ; abdomen yellow, with its basal joint black ; legs yellow, the posterior black at the apex, with the tarsi annulated with whitish ; wings hyaline, pale, with the costa black.

Also taken at Darenth wood in June, not very abundant.

Sp. 9. lugens. *Lutea, antennis, capite, thoracis dorso, abdominisque 1-mo segmento nigris, alis pedumque tibiis tarsisque nigricantibus.* (Long. corp.  $2\frac{3}{4}$ —3 lin. ; Exp. Alar. 5—6 lin.)

Te. (All.) lugens. *Klug*.—At. lugens. *Steph. Catal.* 330. No. 3828.—At. Richardi. *St. Fargeau Mon.* 23?

Head and antennæ black ; mouth and clypeus testaceous, with the mandibles fuscous at the tip ; thorax black, with the shoulders testaceous ; abdomen testaceous, with the basal segment black ; legs pale luteous, with the 4 hinder tibiæ and tarsi dusky or blackish ; wings dull fuscous, with darker nervures.

Apparently a rare species : it occurs occasionally on umbelliferous flowers at Coombe wood, in June.

Sp. 10. abdominalis. *Nigra, thoracis humeris et margine antico, abdomine (basi excepto) pedibusque totis testaceis.* (Long. corp. 3 lin. ; Exp. Alar.  $6\frac{1}{4}$  lin.)

At. abdominalis. *St. Fargeau*.—At. Richardi. *Steph. Catal.* 330. No. 3829.

Antennæ black, pitchy beneath ; head black ; labrum and apex of the mandibles testaceous-brown ; thorax black, with the shoulders and collar testaceous ; abdomen testaceous, with the 1st segment and base of the 2nd pitchy ; legs entirely testaceous ; wings brown-black, testaceous at the base, the costa testaceous, and stigma brownish.

This also appears to be a very rare species ; it has occurred in the neighbourhood of London, in June.

## GENUS XVII.—SELANDRIA, *Leach*.

*Antennæ* short, 9-jointed, 2 basal joints distinct, somewhat globose, remainder less distinct, the 3rd as long as the 4th and 5th united, the rest gradually

diminishing in length and thickness to the apex, the terminal joint being short, and somewhat conic: *mandibles* bidentate: *labrum* emarginate: *head* broad: *ocelli* 3: *wings* ample, anterior thin, with 2 marginal areolets, divided by a straight nervure, placed a little obliquely, and 4 submarginal ones, the 1st small rounded, 2nd and 3rd of equal size, the former receiving 1 and the latter 2 recurrent nervures, the 4th larger, extending to the apex of the wing: *body* broad, scarcely longer than the thorax, somewhat depressed and ovate in the females: *legs* simple, with a pair of short unequal spurs at the apex of the tibiæ alone.

Although in the structure of the wings there is great similarity between the insects of this genus and in those of *Allantus* and *Tenthredo*, nevertheless the brevity and stoutness of the antennæ, the shortness and ovate depressed bodies, the comparatively greater amplitude of the wings, in which the marginal areolet is generally divided by a *straight* nervure, will sufficiently distinguish them from those genera, as will the areolets of the wings\* from those contained in the present section: the species are generally small, and of dark and sombre colours, some of the early ones, however, simulating the *Athaliæ*.

Sp. 1. *serva*. *Flava*, *antennis*, *capite thoracisque dorso sternoque nigris*, *alis hyalinis*, *basi costaque dimidiatâ flavis*, *stigmatè nigro*. (Long. corp.  $2\frac{1}{2}$ — $5\frac{1}{4}$  lin.; Exp. Alar.  $5\frac{1}{2}$ —12 lin.)

Hy. *serva*. *Fabricius*.—Se. *serva*. *Steph. Catal.* 330. No. 3830.

Head and antennæ black; palpi testaceous; thorax yellow or luteous, with its disc above and the sternum shining-black; abdomen and legs immaculate yellow, the last palest; wings hyaline, with the base and half the costa yellow, nervures the same, the apex of the latter fuscous, stigma black.

Not uncommon in marshy situations within the metropolitan district, in June and the beginning of July.

Sp. 2. *dorsalis*. *Luteo-flava*, *anticis capite thorace supra infraque abdominisque segmentorum omnium basi supra nigris*, *stigmatè fusco*. (Long. corp. 4— $5\frac{1}{2}$  lin.; Exp. Alar. 8—10 lin.)

Se. *dorsalis*. *Steph. Catal.* 330. No. 3831.

Head and antennæ black; thorax black above and beneath, the shoulders sometimes lutescent; abdomen luteous-yellow, with its basal segment almost entirely and the other segments at the base black; legs pale luteous-

\* As before alluded to, the variations of these must not invalidate the rule; I possess an example of Se. *serva* with 2 marginal and 5 submarginal areolets, and a *Nematus vicinus* with 1 marginal and only 2 submarginal areolets.



yellow ; wings pale, testaceous at the base, costa and nervures the same, the latter at the apex and the stigma fuscous.

Found in the neighbourhood of the metropolis in June.

Sp. 3. luteiventris. *Nigra, nitida, abdomine luteo, ano punctisque dorsalibus nigris, pedibus luteis, tarsis posticis nigricantibus, alis nigricanti-hyalinis.* (Long. corp.  $2\frac{3}{4}$ —3 lin. ; Exp. Alar.  $5\frac{3}{4}$ — $6\frac{1}{2}$  lin.)

Te. (All.) luteiventris. *Klug.*—Se. luteiventris. *Steph. Catal.* 331. No. 3882.

Antennæ, head, and thorax, entirely shining black ; mouth pitchy ; abdomen luteous, with the apex and some dorsal spots black ; legs luteous, with the posterior tarsi dusky ; wings hyaline, blackish, with the nervures, costa, and stigma darker.

Some examples have the abdomen more evidently spotted with black than others.

Not very uncommon : taken at Coombe and Darenth woods, in June.

Sp. 4. hyalina. *Nigra, abdomine luteo, basi apiceque nigro, pedibus testaceis, alis hyalinis.* (Long. corp.  $2\frac{1}{2}$ — $2\frac{3}{4}$  lin. ; Exp. Alar.  $5\frac{1}{2}$ — $6\frac{1}{4}$  lin.)

Te. (All.) hyalina. *Klug.*—Se. hyalina. *Steph. Catal.* 331. No. 3834.

Antennæ, head, and thorax black ; abdomen luteous, with the 2 basal and 2 apical joints black above, the basal one with a triangular yellowish spot ; legs pale testaceous, with the tips of the hinder tibiæ and the hinder tarsi fuscous ; wings hyaline, with nervures fuscous, costa and stigma blackish.

Not uncommon at Darenth wood in June, and also found at Coombe and Hertford.

Sp. 5. Spinolæ. *Nigra, nitida, ventre pedibusque luteis, alis fusco-hyalinis.* (Long. corp.  $2\frac{1}{2}$ — $3\frac{3}{4}$  lin. ; Exp. Alar.  $5\frac{1}{2}$ —6 lin.)

Te. (All.) Spinolæ. *Klug.*—Se. Spinolæ. *Steph. Catal.* 331. No. 3833.

Head, antennæ, and thorax black ; abdomen luteous, with the 2 basal segments black ; legs luteous, immaculate ; wings hyaline, fuscous.

Rare : found at Coombe wood, in June.

Sp. 6. scapularis. *Nigra, antennis subtus, humeris abdomine pedibusque testaceis, alis subflavescentibus, stigmatum testacea.* (Long. corp.  $2\frac{3}{4}$  lin. ; Exp. Alar.  $5\frac{3}{4}$  lin.)

Se. scapularis. *Steph. Catal.* 331. No. 3835.

Antennæ above, head and thorax black, the former testaceous beneath ; sides of the thorax and a portion of the pleura bright testaceous ; abdomen testaceous, with the two basal joints black above ; legs totally pale testaceous ; wings hyaline, with a slightly yellowish tinge ; nervures pale at the base, testaceous-brown at the apex ; stigma testaceous.

Also rare : taken in June in the vicinity of London.

Sp. 7. ferruginea. *Ore, capite, antennis, abdomine pedibus alarumque (basi obscuratum) nervis flavescentibus; thorace in mare fusco-maculato.* (Long. corp.  $2\frac{1}{2}$ — $2\frac{3}{4}$  lin.; Exp. Alar.  $5\frac{1}{4}$ — $5\frac{3}{4}$  lin.)

Hy. ferruginea. *Fabricius*.—Se. ferruginea. *Steph. Catal.* 331. No. 3836.

Antennæ, head, mouth and thorax yellowish, or luteous, the latter with some irregular fuscous clouds or spots posteriorly in the male; abdomen pale yellowish; legs and nervures of the wings the same, the base of all the wings rather obscure; costa and stigma pale testaceous-yellow; eyes and ocelli black.

The antennæ above, ocelli, eyes, and 3 spots on the thorax—1 dorsal in front, and 2 lateral behind—are sometimes black, with the rest of the insect yellowish.

This variable species appears closely allied to *Ten. verticala* of St. Fargeau.

Apparently a rare insect: it has occurred near London in June, and at Darenth and Birch woods, and in Norfolk.

Sp. 8. brevis. *Obscure-testacea, thorace maculis, abdomine supra nigris.* (Long. corp.  $2\frac{1}{3}$  lin.; Exp. Alar.  $5\frac{1}{2}$  lin.)

Te. (All.) brevis. *Klug*.—Se. brevis. *Steph. Nomen.* 2d edit. col. 125.

Dull testaceous; eyes black; thorax with some fuscous clouds, darkest in front; abdomen testaceous, black above; legs pale yellow; wings rather hyaline, with yellowish nervures, costa, and stigma.

Also rare: found, in June, near London.

Sp. 9. fulvicollis. *Pallide testacea, antennis capite, metathoracis maculis, sternoque nigris, thoracis disco fulvo, tarsis posticis apice obscure annulatis.* (Long. corp. 4 lin.; Exp. Alar. 8 lin.)

Se. fulvicollis. *Steph. Nomen.* 2d edit. col. 125.

Head and antennæ entirely black; thorax dusky fulvous, the metathorax spotted with black, with two testaceous dots; sternum black; abdomen entirely pale testaceous; legs the same, but paler, with the tarsi obscurely annulated with dusky; wings hyaline, yellowish, with the nervures, stigma, and costa, pale testaceous.

Taken, but rarely, near London, in July.

Sp. 10. testudinea. *Lutea, capitis vertice, thoracis dorso, abdomineque supra fusco nigris.* (Long. corp.  $3\frac{1}{2}$  lin.; Exp. Alar.  $7\frac{1}{4}$  lin.)

Te. (All.) testudinea. *Klug*.—Se. testudinea. *Steph. Catal.* 331. No. 3837.

Antennæ and head luteous; crown black; thorax luteous beneath, its disc above black; metathorax with 2 whitish dots; abdomen black above, luteous beneath: the ovipositor also black; legs pale luteous; wings hyaline, with the nervures, costa, and stigma fuscous, the last with a pale cloud towards its apex.

Found at Hertford in June, apparently very rare.

Sp. 11. verna? *Nigra nitida, thorace antice humeris abdomine subtus pedibusque*



*ferrugineis, alis hyalinis, costâ stigmatæque pallidis.* (Long. corp.  $3\frac{1}{2}$  lin.; Exp. Alar. 7 lin.)

Te. (All.) verna. *Klug*?—Le. verna. *Steph. Catal.* 331. No. 3831.

Head and antennæ black; mouth pale; thorax ferruginous in front, with a large black lobe on each side extending to the base, and having a ferruginous spot on the scutellum, behind which is a ferruginous streak; sternum black; abdomen black above, ferruginous beneath; legs pale ferruginous; wings hyaline, pale, the nervures fuscous, costa and stigma pale.

Also, apparently, a scarce species; I have taken a single example near London, in June.

Sp. 12. *fulvicornis.* *Nigra nitida, antennis (totis seu apice) fulvis (seu fuscis), pedibus rufo-testaceis, alis hyalinis, costâ fuscâ.* (Long. corp.  $2-2\frac{1}{4}$  lin.; Exp. Alar.  $5-5\frac{1}{4}$  lin.)

Te. *fulvicornis.* *Fabricius.*—Se. *fulvicornis.* *Steph. Catal.* 332. No. 3854.

Shining black; antennæ totally, or the apex alone, fulvous, or fuscous; legs testaceous-red; wings hyaline, with the costa brown.

Scarce: found in June within the metropolitan district.

Sp. 13. *ephippium.* *Nigra, nitida, thorace supra lateribusque sanguineis, tibiis basi latè albis, alis subinfuscatis.* (Long. corp.  $2\frac{1}{4}-2\frac{1}{2}$  lin.; Exp. Alar.  $5-5\frac{1}{4}$  lin.)

Te. *ephippium.* *Panzer.*—Se. *ephippium.* *Steph. Catal.* 331. No. 3839.

Head and antennæ black; thorax above and on the sides blood-red, with the sternum, the metathorax, and scutellum black; abdomen totally black; femora black; tibiæ dusky-black, with the base broadly white or pale; tarsi also dusky; wings somewhat hyaline, fuscous, with the nervures, costa, and stigma black.

Not uncommon throughout the metropolitan district in June, being frequently found on flowers at Coombe, Darenth, and Birch woods.

Sp. 14. *adumbrata.* *Scutello lævi, nigra subnitida, alis hyalinis, medio transversum subinfuscatis, tibiis anticis testaceis.* (Long. corp.  $2\frac{1}{2}$  lin.; Exp. Alar. 5 lin.)

Te. (All.) *adumbrata.* *Klug.*—Se. *adumbrata.* *Steph. Catal.* 331. No. 3840.

Entirely of a slightly shining black: the scutellum smooth, impunctate; anterior tibiæ testaceous; wings hyaline, with a transverse brownish cloud in the middle; nervures, costa, and stigma brownish; posterior wings a little tinted with brown at the apex.

This appears scarce; I had formerly taken a specimen near London, and in July last I found a second near Hertford.

Sp. 16. *fuliginosa.* *Lævis, nigra, nitida, alis nigricantibus unicoloribus, pedibus sericeis, anticorum tibiis mandibulisque ante apicem testaceis.* (Long. corp.  $2\frac{3}{4}-3$  lin.; Exp. Alar.  $6-6\frac{1}{4}$  lin.)

Te. fuliginosa. *Schränk.*—Se. fuliginosa. *Steph. Catal.* 331. No. 3843.

Smooth, shining, black: legs also black, with a silken pile, the 2 anterior with the extreme apex of the femora and their tibiæ pale testaceous; mandibles towards the tip also testaceous; wings uniform dusky-black, with black nervures, stigma, and costa. Metathorax sometimes with 2 pale dots.

Not uncommon at Darenth wood in June.

Sp. 16. geniculata. *Nigra nitida, antennis thorace brevioribus, alis subhyalinis, pedibus fusco-nigris, geniculis albidis.* (Long. corp.  $3\frac{1}{4}$  lin.; Exp. Alar. 6 lin.)

Te. geniculata. *Steph. Catal.* 331. No. 3841.

Shining black: antennæ shorter than the thorax, rather slender; legs brown-black, with the extreme tip of the femora and base of the tibiæ whitish; wings somewhat hyaline, with the nervures fuscous, the costa and stigma black; metathorax with 2 pale dots.

Found near Hertford in June.

Sp. 17. tibialis. *Nigra nitida, tibiis albis, alis subhyalinis nervuris fuscis, costâ stigmatæque nigris.* (Long. corp.  $2\frac{3}{4}$  lin.; Exp. Alar. 6 lin.)

Se. tibialis. *Steph. Catal.* 331. No. 3842.

Shining black: metathorax with 2 pale spots, and a faint triangular one at the base of the abdomen; legs black, with the extreme apex of the femora and the tibiæ, except the extreme tip, white; tarsi dusky; wings somewhat hyaline, with the nervures fuscous, and the costa and stigma black.

Also found in June, in the vicinity of the metropolis.

Sp. 18. brevicornis. *Antennis thorace brevioribus, lævis, nigra nitida, pedibus anticis anticè testaceis, alis nigricantibus.* (Long. corp. 3— $3\frac{1}{4}$  lin.; Exp. Alar.  $6\frac{1}{2}$ —7 lin.)

Te. (All.) brevicornis. *Klug.*—Se. brevicornis. *Steph. Catal.* 331. No. 3844.

Smooth, glossy black; antennæ shorter than the thorax; anterior legs testaceous in front; wings dusky, with fuscous nervures, and black costa and stigma.

Rare: taken at Darenth wood, in June.

Sp. 19. albipes. *Lævis, nigra nitida, tibiis tarsisque omnibus punctisque duobus metathoracis albis, alis hyalinis.* (Long. corp. 3— $3\frac{1}{4}$  lin.; Exp. Alar. 6— $6\frac{1}{4}$  lin.)

Te. albipes. *Gmelin.*—Se. albipes. *Steph. Catal.* 331. No. 3845.

Smooth, shining black: metathorax with 2 pale or whitish dots; femora black, tibiæ and tarsi entirely white; wings hyaline, with the nervures, costa, and stigma black.

Also taken at Darenth wood in June.

Sp. 20. stramineipes. *Nigra nitida, alarum squamis pedibusque pallide flavis, alis hyalinis, subfuscescentibus.* (Long. corp. 3— $3\frac{1}{4}$  lin.; Exp. Alar. 6— $6\frac{1}{2}$  lin.)

Te. (All.) stramineipes. *Klug.*—Se. stramineipes. *Steph. Catal.* 331. No. 3846.



Head and antennæ black; mouth pale; mandibles brown at the tip; thorax black, with 2 white dots on the metathorax; abdomen black; legs totally pale yellow; wings hyaline, with the nervures dusky, and the costa and stigma blackish; the basal scale yellow: in the 2nd submarginal areolet is a minute dusky point.

Common in the woods and in hedges within the metropolitan district, in June, especially at Coombe and Darenth woods.

Sp. 21. Betuleti. *Nigra nitida, pedibus testaceis, alis fusco-hyalinis, antennis thorace longioribus.* (Long. corp.  $2\frac{1}{4}$ — $2\frac{1}{2}$  lin.; Exp. Alar.  $5\frac{1}{4}$ — $5\frac{1}{2}$  lin.)

Te. (All.) Betuleti. *Klug.*—Se. Betuleti. *Steph. Catal.* 331. No. 3847.

Shining black, with a fine silvery pile: legs entirely testaceous; wings hyaline, brownish, with the nervures, costa, and stigma black; their basal scale also black.

Metathorax sometimes with 2 white dots, a character frequently occurring in nearly all the species of this family, and nearly as often wanting.

Much less abundant than the last; found at Darenth wood, in June.

Sp. 22. funerea. *Nigra nitida, alis fuscescenti-hyalinis, basi obscurioribus, pedibus luteis, antennis thorace sublongioribus.* (Long. corp.  $2\frac{3}{4}$ — $2\frac{1}{2}$  lin.; Exp. Alar.  $4\frac{3}{4}$ — $5\frac{1}{2}$  lin.)

Te. (All.) funerea. *Klug Blatw.* 122.—Se. funerea. *Steph. Nomen.* 2d edit. Appendix.

Shining black: legs entirely luteous; antennæ rather longer than the thorax; mandibles brown at the apex; wings brownish-hyaline, with the base somewhat obscure, the nervures, costa, and stigma brown-black; the 2nd submarginal areolet with a minute black dot.

Taken at Coombe wood, but apparently rare, in June.

Sp. 23. Morio. *Nigra nitida, abdomine nigro-piceo, alis fuscescenti-hyalinis, pedibus pallidis.* (Long. corp.  $1\frac{1}{3}$ — $1\frac{1}{2}$  lin.; Exp. Alar. 5— $5\frac{1}{4}$  lin.)

Te. Morio. *Fabricius.*—Se. Morio. *Steph. Catal.* 331. No. 3848.

Shining black: abdomen pitchy-black; legs pale, the femora slightly dusky in the middle; wings hyaline, fuscescent, with the nervures, costa, and stigma blackish; antennæ as long as the thorax.

Found, but not commonly, near London, towards the end of June.

Sp. 24. fuscula. *Nigra subnitida, alis hyalinis, pedibus testaceis, femoribus basi fuscis, antennis longitudine abdominis.* (Long. corp.  $1\frac{3}{4}$ — $1\frac{3}{8}$  lin.; Exp. Alar. 4— $4\frac{1}{4}$  lin.)

Te. (All.) fuscula. *Klug.*—Se. fuscula. *Steph. Catal.* 332. No. 3849.

Black, slightly shining: mandibles reddish-brown at the tip; femora fuscous, their apex, with the tibiæ and tarsi testaceous; wings hyaline, the nervures

delicate, brownish; costa and stigma darker, a minute dot in the 2nd submarginal areolet; antennæ as long as the abdomen.

Also found near London in June, not common.

Sp. 25. *Æthiops*. *Lævis, nigra nitida, pedum anteriorum tibiis testaceis, alis obscure hyalinis*. (Long. corp.  $2\frac{1}{3}$ — $2\frac{1}{2}$  lin.; Exp. Alar. 5— $5\frac{1}{2}$  lin.)

Te. *Æthiops*. *Fabricius*.—Se. *Æthiops*. *Steph. Catal.* 332. No. 3850.

Smooth, shining black: 4 anterior legs with the femora black, yellowish at the tip, the tibiæ testaceous; posterior legs dusky-black, with the knees, or tip of the femora and base of the tibiæ yellowish; wings obscurely hyaline, with the nervures, costa, and stigma black, and a black dot on the 2nd submarginal areolet.

Frequent at Coombe and Darenth woods, and in other places within the metropolitan district, in June.

Sp. 26. *cinereipes*. *Lævis, nigra, subnitida, tibiis omnibus cinereis basi albis, alis nigricantibus unicoloribus*. (Long. corp.  $2\frac{1}{2}$ — $2\frac{3}{4}$  lin.; Exp. Alar. 6— $6\frac{1}{2}$  lin.)

Te. (All.) *cinereipes*. *Klug*.—Se. *cinereipes*. *Steph. Catal.* 332. No. 3851.

Smooth, black, slightly shining: mandibles brownish at the tip; legs black, with all the tibiæ ashy, white at the base; wings blackish, of one colour; the nervures, costa, stigma, and a rather conspicuous dot in the 2nd submarginal areolet black; antennæ longer than the thorax.

Not uncommon at Darenth wood in June.

Sp. 27. *annulipes*. *Nigra nitida, pedum tibiis tarsisque basi albis, alis fusconigris, anticis apice hyalinis, antennis abdomine subbrevioribus*. (Long. corp.  $2\frac{1}{2}$ —3 lin.; Exp. Alar.  $5\frac{1}{2}$ — $6\frac{1}{4}$  lin.)

Te. (All.) *annulipes*. *Klug*.—Se. *annulipes*. *Steph. Catal.* 322. No. 3852.

Shining black: legs dull black, with the basal half of all the tibiæ, and of the 1st joint of all the tarsi, white; wings dusky-black, the anterior hyaline at the apex; nervures, costa, and stigma black; antennæ scarcely so long as the abdomen.

This pretty species is also found at Darenth wood in June.

Sp. 28. *varipes*. *Corpore brevi, nigro; nitida, pedum anteriorum tibiis tarsisque, posticorum tibiis basi albis, alis hyalinis, medio subfuscis*. (Long. corp.  $2\frac{3}{4}$ — $2\frac{3}{4}$  lin.; Exp. Alar.  $5\frac{1}{4}$ — $5\frac{1}{2}$  lin.)

Te. (All.) *varipes*. *Klug*.—Se. *varipes*. *Steph. Catal.* 332. No. 3853.

Shining black: mandibles brown at the tip; legs dull black, with the anterior tibiæ and tarsi entirely, and the base of the posterior tibiæ white; wings hyaline, with a brownish cloud in the middle, the nervures and stigma also brownish, and in the 2nd submarginal areolet is a dusky spot.

Taken at Coombe wood in June, but apparently rare.



Sp. 29. alternipes. *Lævis, nigra, pedum anteriorum tibiis, posticorum geniculis pallidis, alis albo hyalinis.* (Long. corp.  $2\frac{1}{2}$ — $2\frac{3}{4}$  lin.; Exp. Alar. 6— $6\frac{1}{4}$  lin.)

Te. (All.) alternipes. *Klug.*—Se. alternipes. *Steph. Catal.* 332. No. 3858.

Smooth and black, shining: antennæ scarcely longer than the thorax; mandibles brown at the apex; anterior legs with the tips of the femora and the tibiæ yellowish-white; tarsi dusky; posterior legs with the knees alone pale; wings whitish hyaline, with the nervures and stigma brown; in the 2nd marginal areolet is a minute central black dot.

Not common: taken near London, at Darenth wood, in June.

Sp. 30. atra. *Nigra nitida, antennis thorace longioribus, pedibus fuscis anticis anticè testaceis, posterioribus geniculis subochraceis alis fuscis, apice hyalino.* (Long. corp.  $2\frac{1}{2}$  lin.; Exp. Alar.  $5\frac{1}{4}$  lin.)

Se. atra. *Steph. Nomen.* 2d edit. col. 126.

Shining black: mandibles reddish-pitchy; antennæ longer than the thorax; legs fuscous; the anterior testaceous at the front and extreme tip of the femora, and the front of the tibiæ; 4 posterior with a slight ochreous tinge at the joints; wings rather deep fuscous, with the apex pale; nervures and costa black, stigma brown, and in the 2nd submarginal areolet a small fuscous cloud.

Also scarce: found at Hertford in June.

Sp. 31. parvula. *Nigra, subnitida, alis hyalinis, pedibus alarumque stigmatè pallidis, antennis longitudine abdominis.* (Long. corp. 2 lin.; Exp. Alar.  $4\frac{1}{3}$  lin.)

Te. (All.) parvula. *Klug Blatw.* 119.—Se. parvula. *Steph. Nomen.* 2d edit. Appendix.

Black, slightly shining: mandibles pale testaceous, black at the tip; the last segment of the abdomen above yellowish; legs pale, the apex of the tibiæ and of the tarsi dusky; wings hyaline, the nervures and stigma pale, the 3rd submarginal areolet small; antennæ as long as the abdomen.

Taken in June at Darenth wood.

Sp. 32. pusilla. *Nigra subnitida, pedibus pallidis femoribus basi fuscis, alis hyalinis, subobscuris, antennis abdomine brevioribus.* (Long. corp.  $1\frac{2}{3}$ — $1\frac{3}{4}$  lin.; Exp. Alar. 4— $4\frac{1}{4}$  lin.)

Te. (All.) pusilla. *Klug.*—Se. pusilla. *Steph. Catal.* 332. No. 3855.

Black, slightly shining: mandibles dusky-brown at the apex; legs pale, with the base of the femora alone dusky; the hinder tibiæ at the apex and the tarsi being a little stained; wings hyaline, somewhat obscure, the nervures dusky-brown, stigma large, round, and blackish; in the 2nd submarginal areolet is a black dot; antennæ shorter than the abdomen.

Found at Coombe wood about the middle of June: scarce.

Sp. 33. cinxia. *Nigra nitida, pedum tibiis basi albis, alis infuscatis, basi sub-*

*hyalinis, antennis abdomine subbrevioribus.* (Long. corp.  $2\frac{1}{2}$  lin.; Exp. Alar.  $5\frac{1}{4}$  lin.)

Te. (All.) cinxia. *Klug Blatw.* 117.—Se. consorta. *Steph. Nomen.* 2d edit. col. 126.

Shining black: mandibles pitchy-brown, with the tips black; legs brownish, with the base of the tibiæ white; wings clouded, the base somewhat hyaline, nervures and stigma brownish-black; antennæ somewhat shorter than the abdomen.

Also apparently uncommon; taken in June at Darenth wood.

Sp. 34. *tenuicornis.* *Nigra nitida, pedibus albicantibus, coxis femorumque basi fuscis, alis albo hyalinis, antennis longitudine abdominis.* (Long. corp. 2— $2\frac{1}{4}$  lin.; Exp. Alar.  $5\frac{1}{4}$ — $5\frac{1}{2}$  lin.)

Te. (All.) *tenuicornis.* *Klug.*—Se. *tenuicornis.* *Steph. Catal.* 332. No. 3857.

Shining black: mandibles brown at the apex; legs whitish-yellow, with the coxæ and base of the femora dusky; the base of the tibiæ white; wings hyaline, white, with pale brown nervures and stigma, and a minute dusky dot in the 2nd submarginal areolet; antennæ as long as the abdomen.

Also scarce, and found in June at Darenth wood.

Sp. 35. *lineolata.* *Atra, collaris margine, alarum squamis, pedumque tibiis tarsisque albis, abdominis segmentis tenuissimè albido marginatis, antennis abdomine brevioribus.* (Long. corp. 3 lin.; Exp. Alar. 6— $6\frac{1}{2}$  lin.)

Te. (All.) *lineolata.* *Klug.*—Se. *lineolata.* *Steph. Catal.* 332. No. 3860.

Black: collar with its anterior margin white; abdomen with all the segments narrowly edged with white, and each segment with a spot of a greyish gloss on each side: femora black, with the apex, the tibiæ, and tarsi, also white, with a yellowish-brown tinge towards the apex; wings whitish, hyaline, with the nervures and stigma dull brown, the basal scales white.

Found near London and in Devonshire, in June, apparently scarce.

Sp. 36. *Klugii.* *Nigra, abdomine utrinque maculis ovatis pallidis segmentorumque marginibus tenuissimè albo marginatis, femorum anteriorum apice et tibiis anterioribus anticè geniculisque omnibus albis.* (Long. corp. 4 lin.; Exp. Alar. 7 lin.)

Se. *Klugii.* *Steph. Nomen.* 2d edit. Appendix.

Black, slightly shining: collar with a faint whitish line on each side; abdomen with the margins of each segment narrowly edged with white, and on each side of the 2nd, 3rd, and 4th, an elongate somewhat ovate pale ashy spot; anterior legs with the tips of the femora and the anterior tibiæ anteriorly white; knees of the other legs also white; wings hyaline, with brown nervures, costa, and stigma.

This remarkable species—which greatly resembles a *Dolerus*—I found many years since at Darenth wood, in June: it appears rare.



Sp. 37. pulchella. *Nigra subnitida, collare utrinque pedibusque testaceis, abdominis segmentorum marginibus latè albis.* (Long. corp. 4 lin.; Exp. Alar. 7 lin.)

Se. pulchella. *Steph. Catal.* 332. No. 3864.

Black, slightly shining: collar on both sides pale testaceous; scales of the wings the same; abdomen with each segment above and below broadly margined with white, the apical one luteous; legs bright testaceous; tarsi entirely fuscous; wings hyaline, pale, with the nervures brownish; the costa and stigma pale.

Rare: found near London.

Sp. 38. uncta. *Nigra subnitida, collare utrinque albo marginato, pedibus pallidis.* (Long. corp.  $2\frac{2}{3}$ — $2\frac{3}{4}$  lin.; Exp. Alar.  $5\frac{2}{3}$ —6 lin.)

Te. (All.) uncta. *Klug.*—Se. uncta. *Steph. Catal.* 332. No. 3863.

Black, slightly shining: antennæ shorter than the abdomen; mandibles brownish at the apex; thorax with the collar on each side edged with white; abdomen with a slightly glossy pile; legs pale, a little dusky at the apex of the tibiæ, and the anterior tarsi faintly brownish; wings pale, hyaline, glossy, with the nervures, costa, and stigma, pale brown, the basal scale whitish.

Also rare: taken near London, and in Devonshire, in June.

Sp. 39. biloba. *Nigra, ore collare utrinque pedibus alarum squamis pedibusque pallide testaceis, thorace ferrugineo, maculâ bilobâ nigrâ posticè, mandibulis rufis.* (Long. corp.  $3\frac{1}{2}$  lin.; Exp. Alar. 6 lin.)

Se. biloba. *Steph. Nomen.* 2d edit. col. 126.

Head and antennæ black; mouth pale testaceous; mandibles rufous; thorax with the collar pale testaceous on each side, the disc bright ferruginous, with a bilobed black patch behind; abdomen black, its extreme apex above luteous, and below somewhat pitchy; legs pale testaceous, with the hinder tibiæ whitish, their tips dusky; posterior tarsi also whitish, with the apex of each joint dusky; wings very clear hyaline, with pitchy nervures, and brownish testaceous costa and stigma.

Taken in the vicinity of London, in June, but apparently rare.

Sp. 40. ovata. *Capite thoracisque lateribus punctato-scabris, nigra subnitida, thoracis dorso rufo, geniculis albis, alis hyalinis medio transversim subinfuscat.* (Long. corp. 4— $4\frac{1}{2}$  lin.; Exp. Alar. 8— $8\frac{1}{2}$  lin.)

Te. ovata. *Linné.*—Se. ovata. *Steph. Catal.* 332. No. 3859.

Head and sides of the thorax ruggedly-punctured; of a somewhat shining black; the thorax above broadly and irregularly rufous; abdomen black; legs black, with the knees white; wings hyaline, slightly suffused with a transverse fuscous cloud in the middle; antennæ black, with the 3 or 4 terminal joints streaked with white.

Not very uncommon in June at Darenth and Birch woods, and occasionally found at Coombe and near Hertford,

GENUS XVIII.—HEMICHROA\* *mihi*.

*Antennæ* setaceous, 9-jointed, elongate, 2 basal joints short, remainder slender, 3rd and 4th long, of equal length, 5th rather shorter, the rest gradually diminishing in length: *clypeus* deeply notched: *labrum* rounded: *mandibles* bidentate within: *maxillary palpi* with the 2 basal joints short, 3rd broad and longer, 2 following more elongate, 6 slender and curved; labial with the 3rd joint dilated: *head* large, produced between the antennæ: *eyes* small: *ocelli* 3: *wings* rather short, broad, ample, with 2 nearly equal marginal areolets, divided by a straight nervure, and 4 submarginal ones, the 1st small, rounded; 2nd longest, receiving 2 recurrent nervures; 3rd small, elongate-quadrate; 4th extending to the apex; *abdomen* short, somewhat robust: *legs* short, simple: *tibiæ* with 2 spurs at the apex only.

This genus differs not only in general habit—as may be seen by the figures (pl. xxxviii. f. 2.)—from *Selandria*, but also in the structure and slenderness of its antennæ, wings, &c.: the latter are particularly prone to vary, especially the marginal areolet, scarcely two examples occurring precisely alike; in some there is only 1 areolet, others have 2, and some have the rudiments merely of the separating nervure, while in others it extends either half way or nearly to the margin: in general the species are of contrasted colours.

Sp. 1. Alni. PLATE xxxviii. f. 2.—*Nigra, capite thoraceque rufo-testaceis, pedibus anticis subtestaceis.* (Long. corp.  $3\frac{1}{2}$ —4 lin.; Exp. Alar. 8— $8\frac{1}{2}$  lin.)

Te. Alni. Linné.—Se. Alni. Steph. Catal. 332. No. 3861.

Head testaceous-red; eyes, ocelli, and antennæ black, the basal joints of the last reddish beneath: mandibles brownish or dusky; thorax testaceous-red; abdomen rich shining-black; legs black, anterior somewhat testaceous; wings hyaline, the nervures brownish, and the costa and stigma yellowish-brown.

Not common; taken at Darenth and Birch woods occasionally towards the end of June, and at Forest Hill on the 28th of July last.

Sp. 2. rufa. *Luteo-rufa, antennis, sterno, femoribusque posticis nigris, tibiis posticis albidis, apice cum tarsis fuscis.* (Long. corp.  $3\frac{1}{2}$ —4 lin.; Exp. Alar. 8— $8\frac{1}{2}$  lin.)

Te. rufa. Panzer.—Se. rufa. Steph. Catal. 332. No. 3862.

Head luteous-red; antennæ dusky-black; eyes and ocelli black; thorax rufous above, with a dusky or blackish patch behind the scutellum, and

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\* Εμισυς dimidius, κροα color.



with a large black or pitchy spot beneath on the sternum; abdomen and legs rufous; the hinder femora black, and their tibiæ whitish, with the extreme apex and the tarsi fuscous, with the nervures, a minute dot in the 2nd submarginal areolet, and the stigma brownish.

Also rather uncommon: taken in June, at Darenth wood, and in Norfolk.

Sp. 3. Stigma. *Rufa, antennis, sterno, femoribusque omnibus basi nigris, alis fuscis apice hyalinis, stigmatice piceo.* (Long. corp. 3 lin.; Exp. Alar. 6 lin.)

Se. Stigma. *Steph. Nomen. 2d edit. col. 126.*

Head rufous, with the antennæ, eyes, and ocelli black; thorax rufous dusky behind; abdomen rufous; legs the same, with the base of all the femora black; the tibiæ pale; hinder tarsi fuscous; wings fuscous at the base, the apex hyaline, nervures dusky; the stigma pitchy-black.

Found near Ripley in June.

#### GENUS XIX.—SCIAPTERYX\* *mih.*

*Antennæ* 9-jointed, irregular, rather short and stout, pilose, basal joint robust, 2nd smaller, subglobose, 3rd as long as the 4th and 5th united, the last somewhat longer than the 6th, which with the remainder gradually diminish in length and thickness, the apical one being smallest and rather obtuse: *clypeus* and *labrum* emarginated: *head* broad, large, rough: *eyes* small: *ocelli* 3: *wings* short, broad, punctured; anterior with 2 marginal areolets, divided by a curved nervure, and with 6 submarginal ones, the basal one small, rounded; 2nd narrow, receiving 1 recurrent nervure; 3rd somewhat triangular, receiving 2 recurrent nervures; 4th not extending to the apex of the wings: *abdomen* short, stout, depressed, broad, acute at the apex: *legs* short, simple; *tibiæ* furnished at the tip alone with 2 short obtuse spurs.

In this genus the antennæ are short, stout, and, as it were, somewhat distorted, the articulations being irregular; the body is broad, depressed, and rugose; the wings short, broad, thick, the anterior with the marginal areolets divided by a curved nervure, as in *Allantus*, by which characters combined it may be known from the other genera of this section.

Sp. 1. *costalis.* *Capite thoraceque punctatis, abdomine lævi; nigra, abdomine segmentis utrinque, ultimis margine toto lacteis, alis anticis subfuscis costâ maculâque ochraceis.* (Long. corp.  $4\frac{1}{4}$ — $4\frac{3}{4}$  lin.: Exp. Alar.  $9$ — $9\frac{1}{2}$  lin.)

Te. *costalis.* *Fabricius.*—Se. *costalis.* *Steph. Catal. 332. No. 3865.*

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\* Σκια umbra, πτερον ala.—The numbers of this genus and the preceding one are reversed in the table, page 5.

Head and thorax much punctured and black, the palpi, orbits of the eyes, and line beneath the antennæ, with the shoulders, white; abdomen smooth, black, with the 4 anterior segments milky-white on each side, and the remainder entirely bordered with the same; legs black, white anteriorly; wings thick, somewhat fuscous, with the costa and stigma ochreous, tinged with ferruginous; nervures brown.

Not common: found early in April at Hertford; also at Coombe wood and near Bristol.

§ 6. *Antennæ* 9-jointed, moderate, or elongate; *body* moderate or elongate, generally the latter; anterior *wings* with 2 marginal areolets.

### GENUS XX.—ALLANTUS, *Panzer*.

*Antennæ* somewhat clavate, or setaceous, 9-jointed, the 3rd joint longer than the 4th, the remainder gradually decreasing in length: *mandibles* 2- or 4-dentate: *labrum* rounded: *head* broad, subquadrate, deeply emarginate behind: *eyes* rather large: *ocelli* 3: *wings* somewhat long and slender, ample; anterior with 2 marginal areolets, divided by a curved nervure, the basal areolet being somewhat lanceolate, the apical one ax-shaped; and 4 submarginal ones, the 1st small, somewhat angulated, 2nd narrow, receiving 1 recurrent nervure, 3rd triangular, receiving 2 recurrent nervures, 4th scarcely extending to the apex: *abdomen* elongate: *legs* slender; posterior, especially in the males, elongate, and in that sex the hinder tarsi are dilated at the base; the tibiæ furnished at the apex with 2 long acute spurs.

This is rather an extensive genus, and may be readily known from the others belonging to this section by the structure of its antennæ and wings: it appears, however, to require considerable subdivision, but probably all may with propriety be retained under one genus: the species are generally of large size, and the males—especially in the 1st section—differ much from the females, and have the posterior tarsi dilated, and generally of a dark hue: they are extremely voracious in their final state, devouring other insects.

A. *Antennæ* short, somewhat clavate at the tip.

a. *Antennæ* entirely, or nearly all, yellow.

Sp. 1. Scrophulariæ. *Niger*, *abdomine cingulis* 6, *1-mo remoto*, *collare scutelloque flavis*, *pedum tibiis tarsisque luteis*. (Long. corp. 6—6½ lin.; Exp. Alar. 11½—12 lin.)

Te. Scrophulariæ. *Linné*.—Al. Scrophulariæ. *Samouelle*, pl. 8. f. 2.—*Steph. Catal.* 332. No. 3866.

Black: antennæ luteous-red; labrum and clypeus yellow; sides and front of the collar, a spot in front, above the anterior legs, scutellum, and streak



behind on the metathorax also yellow; abdomen with the 1st, 4th to 8th segments broadly edged with yellow, the 2nd and 3rd sometimes with a minute streak only on each side; femora black, the 2 anterior luteous in front, with their coxæ and the 2 hinder ones spotted with luteous, tibiæ and tarsi entirely luteous: wings reddish-yellow, clouded with brownish towards the apex.

Occasionally found in plenty, in July, on umbelliferous plants within the metropolitan district: I once met with it abundantly at Dover in the beginning of July.

Sp. 2. *annulatus*. *Niger*, *abdomine fasciis* 8, *2-dâ latè interruptâ*, *thoracis scutello*, *collare pedumque tibiis tarsisque flavis*. (Long. corp. 7—7½ lin.; Exp. Alar. 12½—13 lin.)

Te. (All.) *annulata*. *Klug.*—All. *annulata*. *Steph. Catal.* 333. No. 3867.

Black: antennæ fulvous, 2 or 3 of the basal joints black on the inner side; labrum yellow; front and sides of the collar and scutellum luteous; abdomen with the margins of all the segments broadly edged with yellow, the 2nd interrupted; femora black, the 4 anterior with a yellow streak in front; tibiæ and tarsi luteous-yellow; wings luteous, with the apex slightly clouded.

The male has the 2 hinder femora with a yellow streak below, a spot on the anterior coxæ, and the entire posterior ones, yellow.

Taken near Hornsey wood in April 1811, and apparently very rare.

b. *Antennæ with the basal joint alone yellow, or testaceous.*

Sp. 3. *vespiformis*. *Ater*, *squamis ferrugineis*, *pedibus ferrugineo variis*; *collare*, *abdomine cingulis tribus*, *1-mo remoto*, *anoque flavis*. (Long. corp. 5½—6 lin.; Exp. Alar. 10—11 lin.)

Te. *vespiformis*. *Latreille.*—All. *tricinctus*. *Steph. Catal.* 333. No. 3868.

Black: base of the antennæ pale testaceous; clypeus yellow at the base; margins of the collar yellow; abdomen with the 1st, 4th, and 5th segments broadly edged with yellow, the apex luteous; femora black, ferruginous at the base and apex, tibiæ and tarsi ferruginous, dusky towards the tip; wings somewhat hyaline, with the costal portion rather obscure; nervures fuscous, costa and scales at the base ferruginous.

The male has the labrum and entire clypeus yellow, the base of the antennæ and the femora entirely black.

In some examples the 3rd, 6th, and 7th segments of the abdomen have the margins more or less edged with yellow.

Apparently rather scarce: I have taken it, towards the end of June, at Darenth, and at Dover and Ripley.

Sp. 4. *Viennensis*. *Niger*, *collare*, *pedum tibiis abdominis fasciis* 3-*bus*, *1-ma remota*, *anoque flavis*. (Long. corp. 5½—5½ lin.; Exp. Alar. 10—10½ lin.)

Te. Viennensis. *Panzer*.—All. Viennensis. *Steph. Catal.* 333. No. 3869.

Black: antennæ with the basal joint yellow; clypeus, 2 large spots on the sides of the collar, the scutellum, the margins of the 1st, 4th, and 5th segments of the abdomen and the apex also yellow; femora black; base, tip, and coxæ yellow; tibiæ yellow at the base, luteous at the apex; tarsi luteous; wings hyaline, brownish at the apex, nervures and stigma testaceous.

Male with the labrum, and 4 anterior legs, with their coxæ, &c. yellow, the femora of the latter black in the middle above; and the 5th segment of the abdomen not edged with yellow.

The other abdominal segments (except the 2nd) are occasionally slightly edged with yellow, or the belt on the 5th is sometimes divided; the scutellum is occasionally marked with 2 yellow dots.

Taken at Coombe wood, in July, and in Norfolk, but not common.

Sp. 5. *zonula*. *Niger*, *abdomine fasciâ baseos, cingulo medio anoque flavis, pedibus anterioribus totis flavis, posticis flavo variis*. (Long. corp. 4—4½ lin.; Exp. Alar. 8½—9 lin.)

Te. (All.) *zonula*. *Klug*.—All. *zonula*. *Steph. Catal.* 333. No. 3870.

Black: antennæ with the basal joint yellow; mouth and clypeus luteous; margins of the collar the same; abdomen yellowish beneath, the 1st segment alone narrowly edged with yellow, the 5th entirely yellow, and a spot of the same on the 7th and 8th; legs yellow, the tips of the 4 posterior tibiæ and the hinder femora above black; wings hyaline, with fuscous nervures.

The male has the intermediate and posterior tarsi black, and the anterior tarsi with the tips of the joints brownish.

Found at Darenth wood, in July, but not common.

Sp. 6. *Zona*. *Niger*, *abdomine fasciâ baseos, cingulisque duobus approximatis ad apicem flavis, pedibus flavo-variis*. (Long. corp. 5—5½ lin.; Exp. Alar. 9—9½ lin.)

Te. (All.) *Zona*. *Klug*.—All. *Zona*. *Steph. Catal.* 333. No. 3871.

Black: antennæ with the basal joint yellow; mouth and clypeus, with the collar on each side, and the scutellum also yellow; the margins of the 1st, 4th, and 5th segments of the abdomen, a spot on the 8th, and the apex, luteous; legs luteous, with a spot on the femora, and the apex of the tibiæ and tarsi black; wings hyaline, with the apex fuscous.

Male with the labrum, base of the mandibles, and the 4 anterior femora beneath yellow, the tibiæ and tarsi luteous.

Also found in July at Darenth wood, but rare.

Sp. 7. *arcuatus*. *Niger*, *segmentorum abdominis omnium marginibus, 2-ndi et 7-imi interruptis flavis, pedibus flavis, femoribus supra, tibiis apice nigris*. (Long. corp. 4¾—5¼ lin.; Exp. Alar. 9—9½ lin.)



*Te. arcuatus.* *Forster.*—*All. arcuatus.* *Steph. Catal.* 333. *No.* 3872.

Black : antennæ black, generally yellow beneath ; mouth and clypeus yellowish ; sides of the collar and some spots on the sides of the thorax luteous ; abdomen with the 1st, 4th to 6th, and the 8th segments above more or less broadly edged with greenish-yellow, the others spotted with the same on the sides, beneath yellow on the sides, and the ventral segments bordered with the same ; legs bright yellow, with the trochanters, femora above, and tips of the tibiæ and tarsi black ; wings hyaline, with fuscous nervures.

The male has the abdomen beneath entirely yellow, and the segments above more broadly edged with the same ; the posterior tibiæ and tarsi are black above.

An extremely variable insect : sometimes all the femora, or only the 2 anterior, 2 intermediate, or 4 anterior ones, are entirely yellow ; at others the scutellum is yellow ; the trochanters are occasionally without the black spot, and at times only 1 or 2 pair are spotless, &c.

Extremely abundant throughout the metropolitan district, on umbelliferous flowers, during the end of June and beginning of July.

c. *Antennæ* entirely black.

*Sp. 8. tenulus.* *Ater, abdomine fasciis duabus mediis, pedumque tibiis tarsisque flavis.* (Long. corp.  $5\frac{1}{2}$ — $5\frac{3}{4}$  lin. ; Exp. Alar. 11—12 lin.)

*Te. tenula.* *Scopoli.*—*All. tenulus.* *Steph. Catal.* 333. *No.* 3873.

Antennæ and head black ; mandibles brown at the apex ; thorax with a yellow streak on each side ; abdomen black, with the 3rd and 4th segments edged with yellow above and on the sides ; femora black, the anterior with a yellow streak at the tip above ; tibiæ and tarsi yellow, with the apex black ; wings yellowish, with the tip brownish ; stigma yellowish-testaceous.

The male has the yellow margin of the 4th segment of the abdomen interrupted.

Apparently very rare : taken near London in July.

*Sp. 9. rusticus.* *Niger, pedibus anterioribus flavis, posticis flavo variis (in mare ante apicem albis) ; abdomine (fœmina) fasciis 3-bus flavis, posticis 2-bus interruptis (maris immaculato).* (Long. corp.  $5\frac{1}{4}$ — $5\frac{1}{2}$  lin. ; Exp. Alar.  $10\frac{1}{2}$ — $11\frac{1}{2}$  lin.)

*Te. rusticus.* *Linné.*—*All. rusticus.* *Steph. Catal.* 333. *No.* 3874.

Black : mouth and clypeus luteous ; thorax with its sides and the scale of the wings yellow ; abdomen with the basal segment edged with yellow, the 5th and 6th with a large spot on both sides of each, forming an interrupted double yellow fascia, and the terminal joint also yellow above ; anterior legs entirely pale yellow ; posterior with the femora yellow at the base and black at the apex ; tibiæ black, with a yellow spot on the outer edge towards the apex ; tarsi black, and of the 4 anterior legs fuscous above ; wings fuscous.

The male has the mouth and clypeus white; the thorax and abdomen entirely black, the posterior legs black, with the coxæ beneath, trochanters and base of the femora yellow, their tibiæ with the 2nd to the 4th joints white.

Not uncommon at Darenth wood, in June, on umbelliferous flowers; also found at Coombe wood, &c. and at other places within the metropolitan district.

Sp. 10. duodecimpunctatus. *Niger, thorace abdomineque albo-punctatis, pedibus albo-variis, alis stigmatibus testaceo aut fusco.* (Long. corp. 4—5 lin.; Exp. Alar. 9—10½ lin.)

Te. 12-punctata. *Linné.*—All. 12-punctatus. *Steph. Catal.* 333. No. 3875.

Black: labrum and clypeus yellowish; shoulders and scutellum white; abdomen with a triangular white dot on each side of the 4th, 5th, and 6th segments, and the apical segment also white; legs black; 4 anterior tibiæ white, with a black streak beneath, the apex of the femora above also white, and a spot of the same at the base of the hinder coxæ and a streak on the outside of the posterior tibiæ towards the apex; wings yellowish, with the stigma pale testaceous.

The male has the 4 anterior legs white, their femora and tibiæ with a broad black line behind: the 4 posterior coxæ have a large white spot on each; the 2 hinder legs are black, with a white streak at the base of their femora; wings with the stigma fuscous.

Equally abundant with the last within the metropolitan district, frequenting the same localities, &c.

Sp. 11. ferus. *Niger, thoracis humeris, scutello, abdomine lineolis duabus et maculâ laterali, tibiisque albis.* (Long. corp. 4½ lin.; Exp. Alar. 10 lin.)

Te. fera. *Fabricius.*—All. ferus. *Steph. Nomen.* 2d edit. col. 126.

Black: labrum, the sides of the thorax, scutellum, a line on each side of the 5th and 6th segments of the abdomen, and the apex of the last white; at the base on each side is a large white spot; tibiæ white; wings obscure, with a fuscous stigma.

The male has the 4 anterior femora whitish in front, and the thorax and abdomen entirely black, as well as the hinder tibiæ.

Probably a variety of the foregoing species.

Found with the foregoing at Darenth and Coombe woods.

Sp. 12. albicinctus. *Niger, collare et abdominis segmento 1-mo margine albis, ore pedibusque albo variis.* (Long. corp. 4½—4¾ lin.; Exp. Alar. 9—9½ lin.)

Te. (All.) albicincta. *Klug.*—All. albicinctus. *Steph. Catal.* 333. No. 3876.

Black: labrum, apex of the clypeus, and 2 minute dots on the crown, the margins of the collar and apex of the scutellum clear white; the basal segment of the abdomen with its edge, and the apical one above, also white; anterior legs black, with the base and apex of the femora, tibiæ anteriorly, and base of the tarsi below white; intermediate black, with the coxæ and



base of the femora, the tibiæ towards the apex and in front also white ; posterior black, with the tibiæ in the middle and trochanters white ; wings hyaline, with black nervures.

The male is destitute of the white dots on the crown, and has the legs more varied with white ; the margins of the abdominal segments beneath are also white.

Less abundant than the 2 foregoing insects, but not uncommon at Darenth wood, towards the middle or end of June.

Sp. 13. Ribis. *Niger, pedibus albo variis.* (Long. corp.  $4\frac{1}{2}$  lin. ; Exp. Alar.  $8-8\frac{1}{2}$  lin.)

Te. Ribis. *Schrank.*—All. Ribis. *Steph. Catal.* 334. No. 3877.

Black : apex of the labrum white ; mandibles spotted with the same ; 4 anterior legs black, with the base and apex of the femora white, and the tibiæ and tarsi white in front ; 4 posterior black, with the coxæ, a large patch at their base, trochanters, and base of the femora, knees, and apex of the tibiæ also white ; wings hyaline, with the nervures black.

The male has the labrum dusky.

Also found, but not very commonly, at Darenth wood in June.

Sp. 14. Punctum. *Niger, collare scutelloque flavis, abdomine albo punctato, pedibus albo variis, posticorum femoribus sanguineis.* (Long. corp.  $4\frac{1}{2}$  lin. ; Exp. Alar.  $7\frac{1}{2}-8$  lin.)

Te. punctum-album. *Linné.*—All. Punctum. *Steph. Catal.* 334. No. 3878.

Black : collar and scutellum yellowish ; abdomen with a white spot on the sides of the 3rd to the 7th segments, and one on the back of the terminal one ; anterior legs white, with the femora black ; intermediate white, striped with black ; posterior black, with blood-red femora, the base and apex of which are sometimes dusky ; tibiæ at the tip, and coxæ at the base, spotted with white ; wings hyaline, with fuscous nervures.

Rather scarce : found at Darenth wood in June, and near Dover, and at Coombe.

†Sp. 15. hæmatopus. *Niger, abdomine punctis albis, pedibus sanguineo variis.* (Long. corp. 5 lin. ; Exp. Alar. 10 lin.)

Te. hæmatopus. *Panzer.*—All. hæmatopus ? *Steph. Catal.* 334. No. 3879.

Black : margin of the clypeus, labrum, and mouth luteous ; scutellum generally white ; abdomen with a white spot on each side of the 5th and 6th segments ; 4 anterior legs rusty-luteous, posterior ferruginous, with the knees black ; all the tarsi black.

Male with the 4 anterior legs lemon-colour, the posterior femora with a black streak.

I do not know that this is British, the following species having been hitherto confounded with it in English cabinets.

Sp. 16. *strigosa*. *Ater, pedibus, abdominisque medio supra rufis, ore, margine collaris, scutello et maculis ad apicem abdominis flavis.* (Long. corp.  $5-5\frac{1}{4}$  lin.; Exp. Alar.  $6-6\frac{1}{4}$  lin.)

Te. *strigosa*. *Fabricius E. S. Sup. 217.*—All. *strigosa*. *Steph. Nomen. 2d. edit. Appendix.*

Black: mouth and clypeus yellowish; margin of the collar and scutellum the same; abdomen with the 3rd and 4th segments red above; the 6th with an elongate yellowish-white spot on each side, and the 7th with a similar, but smaller, spot, the terminal joint also whitish-yellow; 4 anterior legs pale testaceous; posterior bright testaceous-red, with the coxæ, base of the tibiæ, and the tarsi black.

The male has the 3rd to the 5th joints of the abdomen red, their anterior legs, and a spot on the breast yellow, with their coxæ lemon-yellow.

Variable: some examples have the 4th segment of the abdomen entirely black; others with a small red dorsal spot only there, and in rare instances the 3rd segment has only a similar mark, thereby closely approximating to *Al. hæmatopus*.

Apparently rare: taken at Darenth wood, near Dover, and in Devonshire, in June; also at Coombe.

Sp. 17. *blandus*. *Niger, abdomine medio rufo, coxis posticis maculâ albâ notatis.* (Long. corp.  $5\frac{1}{4}-5\frac{1}{2}$  lin.; Exp. Alar.  $10\frac{1}{2}-11$  lin.)

Te. *blanda*. *Fabricius.*—All. *blandus*. *Steph. Catal. 340. No. 3880.*

Black: mandibles white at the base, labrum and clypeus sometimes varied with the same; abdomen with the 2nd to the 5th segments rusty-testaceous; anterior pair of legs with a white stripe, 2 posterior coxæ with a large white patch at the base; wings brownish, with darker nervures.

The male is black, with the labrum, the 2 anterior pair of legs in part, the hinder femora at the base, and all the coxæ, and a patch at the base of the posterior ones, white; the abdomen with the intermediate segments ferruginous at the sides only: sometimes the posterior legs and femora are entirely black.

Abundant on umbelliferous flowers, throughout the metropolitan district, in June.

Sp. 18. *neglectus*. *Ater, abdominis medio rufo.* (Long. corp.  $5\frac{1}{4}-5\frac{3}{4}$  lin.; Exp. Alar.  $10\frac{1}{2}-11$  lin.)

Black: mandibles testaceous at the apex; abdomen with the 2nd, 3rd, and base of the 4th segments—sometimes also the 5th—testaceous-red; anterior legs with the femora and tibiæ white in front.

Both sexes are alike in colour.

Also common throughout the metropolitan district in June and the beginning of July.



Sp. 19. *cinctus*. *Niger, abdominis segmento 3-tio, et 4-to lateribus anoque flavis, pedibus flavo-variis.* (Long. corp. 5—6 lin. Exp. Alar.  $9\frac{1}{2}$ — $11\frac{1}{2}$  lin.)

Te. *cincta*. *Panzer*.—All. *cinctus*. *Steph. Catal.* 334. No. 3882.

Black: labrum and clypeus luteous; mandibles reddish; abdomen with the 3rd segment entirely yellow above and on the sides, the 4th and 5th on the sides above, the 6th to the last yellow on the back; 4 anterior legs luteous, their femora black behind; 2 hinder femora black, coxæ and trochanters yellow; tibiæ yellow, black at the tip; tarsi dusky, with a testaceous streak within; wings hyaline yellowish, with the nervures fuscous.

Male with the head beneath and under surface pale yellow; the abdomen with the 3rd and 4th segments yellow, the latter interrupted with black on the back, and the terminal joint with a narrow yellow edge; legs yellow, with a black streak throughout the upper edge of each.

Abundant on flowers throughout the metropolitan district, at the end of June and beginning of July; found also at Dover.

Sp. 20. *zonatus*. *Niger, collaris margine utrinque, scutello abdomineque medio flavis.* (Long. corp. 6— $6\frac{1}{2}$  lin.; Exp. Alar. 10— $13\frac{1}{4}$  lin.)

Te. *zonata*. *Panzer*.—All. *zonatus*. *Steph. Catal.* 334. No. 3883.

Black: labrum and clypeus bright-yellow; scutellum and margins of the collar, with the wing scales also yellow; abdomen with the 4th and 5th segments and edge of the 3rd, and the last pale yellow; legs yellow, with the femora and tips of all the tibiæ black; wings hyaline, pale testaceous, with the nervures and stigma fuscous.

Male with the abdomen nearly entirely yellow, the basal and penultimate segments being black, and the 2nd segment black in the middle; legs yellow, with the 4 anterior femora black behind, the posterior femora, their tibiæ, and basal joint of the tarsi above also black.

Frequently taken at Darenth wood, but not very common elsewhere, about the end of June and beginning of July. In Scotland.

†Sp. 21. *flavicornis*. *Luteus, capite, abdominisque apice nigris, ore et maculâ ad basin coxarum posticarum flavis; alis apice nigricantibus.* (Long. corp.  $6\frac{1}{4}$  lin.; Exp. Alar.  $12\frac{1}{2}$  lin.)

Te. *flavicornis*. *Fabricius*.—All. *flavicornis*. *Steph. Catal.* 334. No. 3884.

Antennæ yellow; head black; mouth and clypeus pale yellow; disc of thorax and abdomen yellow, the tip of the last broadly black; legs yellow, with the hinder femora black, yellow at the tip, and a whitish-yellow spot at the base of their coxæ; wings yellowish-hyaline, with the tip brownish.

Male with the legs entirely yellow, the apex of the abdomen less broadly tipped with black, and that of the wings pale fuscous.

Taken near Plymouth: apparently rare.

B. *Antennæ* not thickened at the apex.a. *Antennæ* white at the tip.

Sp. 22. *conspicuus*. *Abdomine pedibusque lætè rufis, capitis vertice, thoracis dorso, pedibus supra et antennarum basi nigris, ceterum albidis.* (Long. corp. 6 lin.; Exp. Alar. 11 lin.)

Te. (All.) *conspicuus*. *Klug.*—All. *conspicuus*. *Steph. Catal.* 334. No. 3885.

*Antennæ* black, white at the tip; head pale luteous, black above and behind; thorax pale testaceous, with the disc above black; abdomen pale testaceous-red, with the basal joint fuscous; legs testaceous, with a black streak on the femora and tibiæ; wings hyaline, with brown nervures.

The sexes resemble each other in colour, and are both variable; the 2 basal segments of the abdomen are sometimes black, and occasionally the terminal joint of the antennæ; the collar is at times yellowish, and the head pale behind the eyes.

Not uncommon, within the metropolitan district, towards the end of June, frequenting woods; also found at Dover.

Sp. 24. *laticinctus*. *Niger, capite anticè, collare squamisque albidis, abdominis medio tibiis tarsisque rufis, alis stigmatè subtestaceo.* (Long. corp. 6 lin.; Exp. Alar. 11—11½ lin.)

All. *laticinctus*. *Steph. Nomen.* 2d edit. *Appendix*.

Black: head in front whitish; collar and wing-scales the same; abdomen with the 3rd, 4th, and 5th segments, and the sides of the 2nd light testaceous-red; anterior pair of legs pale rufous; intermediate also red, with the base and upper edge of the femora black; posterior with the femora black, the tibiæ and tarsi red; anterior coxæ pale, and tip of the antennæ white; wings hyaline, slightly fuscous towards the apex, nervures fuscous; costa and stigma pale brownish-testaceous.

Found, not uncommonly, at Darenth and Birch woods, in June and the beginning of July.

Sp. 23. *rufiventris*. *Niger, æneo-nitidus, capite antice, collare squamisque albis, abdomine pedumque tibiis tarsisque rufis, alis stigmatè pallido.* (Long. corp. 6 lin.; Exp. Alar. 11½ lin.)

Te. *rufiventris*. *Fabricius.*—All. *rufiventris*. *Steph. Catal.* 335. No. 3886.

Black, with a brassy tinge; front of the head, the collar, and wing-scales white; abdomen red, with the basal segment brassy-black; tibiæ and tarsi red, with a blackish streak above; wings hyaline, with the nervures brown and the stigma pale.

The following species, which was formerly received by Leach from Klug, by the name All. *rufiventris*, appears totally distinct from this, which I am not aware has ever been found in Britain.



Sp. 25. *balteatus*. *Niger, abdomine medio rufo, capite anticè albo nigro punctato, pedibus rufis, coxis femoribusque supra nigris, stigmate fusco.* (Long. corp.  $5\frac{1}{4}$  lin.; Exp. Alar.  $9\frac{1}{2}$ —10 lin.)

Te. (All.) *balteata*. *Klug Blattw.* 171.—Al. *balteatus*. *Steph. Nomen.* 2d edit. *Appendix.*

Black: apex of the antennæ and head in front white, the latter with some black dots on the front; the mandibles white, with the tip brown; abdomen red, with the 2 basal and 2 apical segments black; legs red, the coxæ and femora above black; wings hyaline, with the nervures and stigma fuscous. Rare: taken in the north of England, and in Scotland, in June.

Sp. 26. *solitarius*. *Niger, ore, scutello, maculæque duplici utrinque ad basin coxarum posticarum albis, pedibus piceo-variis.* (Long. corp.  $6\frac{1}{2}$ —7 lin.; Exp. Alar.  $12\frac{1}{2}$ —13 lin.)

Te. *solitaria*. *Scopoli*.—All. *solitarius*. *Steph. Catal.* 335. No. 3887.—Te. (All.) *pellucida*. *Klug Blattw.* 177 ♂.

Black: apex of the antennæ white; mouth and clypeus white; mandibles pitchy at the apex; the 1st segment of the abdomen with a white spot on each side beneath; 4 anterior legs with the femora black, pitchy above; tibiæ and tarsi testaceous, with a dusky line; posterior femora black, with the tibiæ and tarsi pitchy; at the base of the coxæ a white patch; wings hyaline, fuscous, the stigma dusky.

The male has the 4 intermediate segments of the abdomen, and the 4 anterior legs beneath whitish.

Not uncommon in the vicinity of London, on flowers, &c. in June.

Sp. 27. *aterrimus*. *Niger, ore, maculæque duplici ad basin coxarum posticarum albis, pedibus anterioribus testaceo-variis.* (Long. corp. 7 lin.; Exp. Alar. 12—13 lin.)

All. *aterrimus*. *Steph. Catal.* 335. No. 3888.

Black: tip of the antennæ, mouth and clypeus white; abdomen with a large white patch on the sides of the basal segment; anterior and intermediate legs bright testaceous, the femora beneath and tibiæ behind black; posterior legs black, with a round white dot at the base of the coxæ; wings hyaline, with fuscous nervures and a dusky stigma.

Male with the 2nd to the 4th segments of the abdomen pale reddish.

Common, in the neighbourhood of London, about the end of June, frequenting flowers on the sides of woods, &c.

Sp. 28. *lividus*. *Niger, ore maculæque duplici ad basin coxarum posticarum albis, pedibus ferrugineo-variis, abdomine apice rufo; alis stigmate testaceo apice fusco.* (Long. corp. 6— $6\frac{1}{2}$  lin.; Exp. Alar. 12—13 lin.)

Te. *livida*. *Linné*.—All. *lividus*. *Steph. Catal.* 335. No. 3892.

Black: apex of the antennæ, mouth and clypeus white; abdomen with a white spot on each side of the basal segment, the 5th and following segments

bright testaceous; legs also testaceous or ferruginous, the 2 anterior tibiæ and tarsi palest, and with a black streak behind; the 4 posterior tarsi with the terminal joint whitish, and the hinder coxæ with a large white spot at the base; posterior femora and the base of the others sometimes black; wings hyaline, with fuscous nervures; the stigma testaceous, with the tip fuscous.

Male with the abdomen beneath entirely testaceous, and the apex above from the 3rd segment, which has a pale dorsal spot; the anterior legs are whitish in front, and all the femora are white at the base, and the coxæ have a white spot.

Extremely common, on flowers in June, throughout the metropolitan district; also taken in Devonshire and in Scotland.

Sp. 29. Colon. *Niger ore, maculâque duplici ad basin coxarum posticarum albis, abdominis apice, pedibus alarumque squamis rufis, stigmatè fusco.* (Long. corp.  $5-5\frac{1}{4}$  lin.; Exp. Alar.  $10-10\frac{1}{2}$  lin.)

Te. (All.) Colon. *Klug.*—All. Colon. *Steph. Catal.* 335. No. 3889.

Black: mouth and apex of the antennæ white; abdomen with a white spot on each side of the basal segment, the four terminal segments red; legs also red, the femora with a black line on the upper side; tibiæ with the apex and the tarsi dusky; at the base of the posterior coxæ is a small white dot; wings hyaline, with the nervures and stigma brown.

The male has the 3rd to the 7th segments of the abdomen pale reddish.

Rather scarce: taken in June near London.

Sp. 30. Coryli. *Niger, ore maculaque duplici ad basin coxarum posticarum albis, abdomine medio rufo, alis stigmatè pallido.* (Long. corp.  $4\frac{1}{2}$  lin.; Exp. Alar.  $8\frac{1}{2}-9$  lin.)

Te. Coryli. *Panzer.*—All. Coryli. *Steph. Catal.* 335. No. 3890.

Black; the 4 terminal joints of the antennæ, mouth, clypeus at the tip, and base of the mandibles white; abdomen with an ochreous spot on each side of the basal segment; the 4th, 5th, and 6th segments dull testaceous; femora black, 4 anterior tibiæ and tarsi white, with a black streak behind; 2 hinder testaceous, with a white spot on the last joint of the tarsi, and a larger one at the base of the coxæ; wings brownish, with the nervures fuscous and the stigma pale.

The male has the 4th, 5th, and 6th segments of the abdomen, and the 4 anterior legs pale; the latter have a black streak behind.

Taken in June, within the metropolitan district.

Sp. 31. bipunctulus. *Niger, labro, punctulisque binis ad basin coxarum posticarum albis, pedibus piceo-variis, alis stigmatè fusco.* (Long. corp.  $5-5\frac{1}{4}$  lin.; Exp. Alar.  $9\frac{1}{2}-10$  lin.)

Te. (All.) bipunctula. *Klug.*—All. bipunctulus. *Steph. Catal.* 335. No. 3891.

Black: apex of the antennæ, labrum, and base of the mandibles white, tip of



the latter brown; legs pitchy, with the upper edge of the 4 anterior femora and tibiæ dusky; tarsi also dusky; posterior femora brown-black, with the apex brownish, the tibiæ and tarsi pitchy, with the tip dusky; and at the base of the posterior coxæ are 2 minute white dots; wings hyaline, the nervures and stigma brown.

Not common: found in June near Dover.

Sp. 32. *velox*. *Niger, ore, maculâque utrinque ad basin coxarum posticarum albis, pedibus rufis, alis stigmatè fusco.* (Long. corp. 5—5 $\frac{1}{4}$  lin.; Exp. Alar. 8 $\frac{1}{2}$ —9 lin.)

Te. (All.) *velox*. *Klug Blattw.*—All. *velox*. *Steph. Nomen. 2d edit. Appendix.* Black: tip of the antennæ and mouth white; abdomen entirely deep glossy black, without any spot on the basal segment; legs bright red, with the coxæ, trochanters, tips of tibiæ behind, and upper edge of the tarsal joints black; at the base of the hinder coxæ is a small white spot; wings clear hyaline, with the nervures and stigma brown-black.

Rare: taken at Birch wood and in Scotland, in June.

b. *Antennæ entirely black or of a dark hue.*

Sp. 33. *ater*. *Niger, ore albo, pedibus rufo-testaceis tarsis posticis nigris: mas, abdomine medio obscurè testaceo.* (Long. corp. 4 $\frac{3}{4}$ —5 lin.; Exp. Alar. 9 $\frac{1}{2}$ —10 $\frac{1}{4}$  lin.)

Te. *atra*. *Linné.*—All. *ater*. *Steph. Catal. 335. No. 3893.*

Black, shining: clypeus, labrum, and mandibles white, the tip of the last dusky or black; wing scales ferruginous; legs testaceous-red, coxæ and trochanters varied with black; hinder tarsi black; wings hyaline, the nervures and stigma fuscous.

Male with the 3rd to the 6th segments of the abdomen dull testaceous, legs bright testaceous, the femora with a black streak behind, and the posterior tibiæ at the apex, and their tarsi brownish-black; face slightly spotted with black.

Taken, in June, at Darenth wood; also at Coombe, but rarely.

Sp. 34. *dispar*. *Niger, ore, collaris margine, punctoque ad basin coxarum posticarum albis, pedibus alarumque squamis rufis: mas, abdomine medio ferrugineo.* (Long. corp. 5—5 $\frac{1}{2}$  lin.; Exp. Alar. 10 $\frac{1}{2}$ —11 lin.)

Te. (All.) *dispar*. *Klug Blattw. 196.*—Te. *solitarius*  $\beta$ . *Schrank 658 ♂.*—Al. *dispar*. *Steph. Nomen. 2d edit. Appendix.*

Black: clypeus, labrum, and mandibles white, the latter brownish at the tip; margin of the collar also white; wing scales red; abdomen with a small white dot on each side of the 1st segment at the base of the posterior coxæ; legs red, with the tip of the hinder tibiæ and their tarsi black; wings hyaline, with the nervures and stigma brownish-black.

The male has the 3rd to the 5th segments entirely, the margin of the 2nd, and the base of the 6th, ferruginous; a pale streak beneath the eyes, and a

black one behind each of the femora and at the apex of the posterior tibiæ ; the anterior legs are rather pale.

Found likewise at Darenth wood in June and the beginning of July, not uncommonly.

Sp. 35. *mandibularis*. *Niger, mandibulis maculæque simplici ad basin coxarum posticarum albis, pedibus anterioribus rufis.* (Long. corp. 6 lin. ; Exp. Alar. 13 lin.)

Te. *mandibularis*. *Panzer.*—All. *mandibularis*. *Steph. Catal.* 335. No. 3894. Black : mandibles white, brown at the tip ; abdomen with a single white spot on each side of the 1st segment at the base of the posterior coxæ ; 4 anterior legs bright rufous ; posterior pair black ; wings hyaline, brownish.

The sexes resemble each other.

Apparently very rare ; I have a pair which was taken at Darenth wood in July.

Sp. 36. *punctulatus*. *Viridis, capitis vertice, thoracisque dorso maculis, abdomine punctis ad marginem subtilissimis nigris.* (Long. corp. 4—5½ lin. ; Exp. Alar. 8—10½ lin.)

Te. (All.) *punctulata*. *Klug.*—All. *punctulatus*. *Steph. Catal.* 335. No. 3898. Light green : antennæ with a spot on the basal joint and a line on the remainder black ; crown of the head with an irregular black mark ; thorax more or less varied with black on the disc ; abdomen clear green, the base of the first 2 or 3 segments with a delicate transverse black line, and each segment with 2 minute approximating, or geminated, black dots, on each lateral margin ; the centre of the segments immaculate ; legs with a slender black streak above ; the apex of the tarsal joints dusky ; wings hyaline, with the nervures fuscous, costa and stigma green. Sexes alike.

Abundant in June, on flowers, within the metropolitan district.

Sp. 37. *viridis*. *Virescente-flavescens, subtus niger, collare scutelloque flavescens, thoracis lateribus pedibusque infra nigro lineatis, stigmatibus fusco.* (Long. corp. 6—6¼ lin. ; Exp. Alar. 12½—13 lin.)

Te. *viridis*. *Linné.*—All. *viridis*. *Steph. Catal.* 335. No. 3896.

Beneath greenish-yellow ; antennæ and head above black ; disc of the thorax black, the sides with a black streak beneath ; scutellum and collar pale yellowish-green ; abdomen with the sides and the extreme edge of each segment greenish ; legs green, the femora and tibiæ with a black streak behind ; tarsi black ; wings fuscous, with the nervures and stigma dark fuscous.

Male with the abdomen greenish, the base of each segment with a rounded black patch.

Also very common, within the metropolitan district, in June, on flowers, &c.



Sp. 38. *scalaris*. *Viridis, capitis vertice thoracisque dorso maculis, abdomine lineâ punctorum nigrorum, alis costâ stigmatique viridibus.* (Long. corp. 4—5 $\frac{3}{4}$  lin.; Exp. Alar. 7 $\frac{1}{2}$ —10 $\frac{1}{2}$  lin.)

Te. (All.) *scalaris*. *Klug.*—All. *scalaris*. *Steph. Catal.* 335. No. 3897.—

Te. *viridis*. *Donovan, v. xiii. pl. 444.*

Green: antennæ black above; crown of the head more or less varied with black; disc of the thorax the same; abdomen with a line of black dots extending from the base to the apex along the centre, frequently expanded transversely so as to form a broad longitudinal dorsal streak, leaving the margins and sides of the abdomen always spotless; all intermediate shades occur from a few simple dots; legs with a black streak throughout above, and the apex of the joints of the tarsi also black; wings hyaline, nervures fuscous, the costa and stigma green.

The sexes resemble each other, but both are extremely prone to vary.

Taken very commonly on flowers, in June and July, within the metropolitan district.

Sp. 39. *pictus*? *Flavo-viridis, capitis vertice, thoracis maculis, pectoris plagâ, abdominisque dorso nigris, pedibus nigro lineatis, tarsis fuscis.* (Long. corp. 3—3 $\frac{1}{2}$  lin.; Exp. Alar. 6 $\frac{1}{2}$ —7 lin.)

Te. (All.) *pictus*? *Klug.*—All. *pictus*. *Steph. Catal.* 335. No. 3899.

Yellowish-green: antennæ above and the 2nd joint black; crown black; thorax more or less varied with black; abdomen black above, with the sides, apex, and extreme margins of the segments greenish; legs with a black streak above, tarsi fuscous; wings hyaline, nervures fuscous; stigma pale, with the apex brownish.

Less abundant than the 3 preceding species, occurring occasionally at Darenth wood and near Dover, in June.

Sp. 40. *Tiliæ*. *Luteus, thorace maculis duabus, abdominis segmento 1-mo, macularum strigâ dorsali, ano, tarsisque posticis nigris.* (Long. corp. 5 lin.; Exp. Alar. 9—10 lin.)

All. *Tiliæ*. *Panzer.*—*Steph. Catal.* 335. No. 3895.

Luteous: mandibles brown; forehead ferruginous; crown dusky; thorax with the disc ferruginous, with 2 oblique black streaks; abdomen with the basal segment and part of the 2nd black, the former with a yellowish border; the terminal one also black, and the intermediate ones with a row of spots down the back; two hinder tarsi dusky, or black; wings hyaline, with yellowish nervures; stigma dusky, pale at the base.

Male with the antennæ dusky at the tip, the disc of the thorax immaculate, the abdominal row of spots larger, and the tarsi all yellow.

Not very common: found at Darenth and Coombe woods occasionally in June.

Sp. 41. *lateralis*. *Corpore subcylindrico nigro, abdomine medio rufo, lateribus albo, pedibus rufis.* (Long. corp.  $3\frac{1}{2}$  lin.; Exp. Alar. 7 lin.)

Te. *lateralis*. *Fabricius*.—All. *lateralis*. *Steph. Catal.* 336. No. 3904.

Black: antennæ pale beneath; labrum, mandibles at the base, and inner orbits of the eyes yellowish-white; collar and wing scales the same; abdomen with the sides white, and the 3rd to the 6th segments red; legs red; coxæ black, edged with white; base of femora whitish; the hinder tibiæ at the extreme apex and their tarsi dusky; wings hyaline, yellowish, with the nervures and stigma brown, the base of the last yellowish.

Male pale whitish-yellow beneath, the upper half of the femora black.

Taken within the metropolitan district, in June, not uncommonly; also near Bristol and in Devonshire.

Sp. 42. *Aucupariæ*. *Corpore subcylindrico, nigro, collare utrinque alarumque squamis albis, abdominis medio pedibusque rufis.* (Long. corp.  $3\frac{1}{2}$  lin.; Exp. Alar.  $6\frac{3}{4}$ —7 lin.)

Te. (All.) *Aucupariæ*. *Klug.*—All. *Aucupariæ*. *Steph. Catal.* 336. No. 3903.

Black: antennæ pale beneath; labrum white; mandibles brown; margins of the collar and wing scales white; abdomen with the 3rd to the 6th segments red; legs red, the hinder tarsi fuscous; wings hyaline, with the nervures and stigma brown, the latter yellowish at the base.

The male has a black streak on the femora.

Less abundant than the foregoing: it occurs at Darenth and Coombe woods in June, and in the New Forest.

Sp. 43. *bicolor?* *Niger nitidus, alarum squamis albis, abdominis segmentis intermediis pedibusque luteis.* (Long. corp.  $3\frac{1}{2}$  lin.; Exp. Alar.  $6\frac{1}{2}$  lin.)

Te. (All.) *bicolor*. *Klug?*—All. *bicolor*. *Steph. Catal.* 336. No. 3902.

Shining-black: antennæ shorter than the abdomen; labrum white at the tip, mandibles brown; collar and wing scales whitish; abdomen with the 3rd, 4th, and 5th segments red; legs red, with the tips of the coxæ and trochanters yellowish; wings hyaline, with the nervures and stigma brownish.

Rare: found within the metropolitan district, at Darenth, &c. in June.

Sp. 44. *nitidus*. *Niger nitidus, abdominis segmentis 3-bus intermediis pedibusque rufis.* (Long. corp.  $4\frac{1}{2}$  lin.; Exp. Alar.  $8\frac{1}{2}$  lin.)

Te. (All.) *nitidus*. *Klug.*—All. *nitidus*. *Steph. Catal.* 336. No. 3901.

Shining black: abdomen with the 3rd, 4th, and 5th segments red; legs also red, coxæ dusky, with the apex and trochanters whitish; anterior femora at the base, and the others at the apex blackish; apex of hinder tibiæ and the tarsi dusky; wings yellowish, with the nervures and stigma brown-black.

Also rare: taken at Birch wood and in Devonshire, towards the end of June.



Sp. 45. *agilis*. *Antennis thorace sublongioribus, corpore violaceo-nigro, labro mandibulisque fusco-testaceis, pedibus cum condylis luteis, tarsis posticis nigris.* (Long. corp.  $3\frac{1}{2}$  lin.; Exp. Alar.  $6\frac{1}{2}$  lin.)

Te. (All.) *agilis*. *Klug.*—All. *agilis*. *Steph. Catal.* 336. No. 3900.

Shining, somewhat violet-black; antennæ rather longer than the thorax; labrum and mandibles testaceous-brown; legs pale testaceous, with a yellow hue, the coxæ and trochanters pale luteous; the 4 anterior femora with a dusky cloud above, and the 2 hinder tarsi black; wings yellowish, with the nervures and stigma brownish, the base of the last pale.

Not common: found at Darenth wood in July.

Sp. 46. *rufipes*. *Niger, nitidus, mandibulis pedibusque ferrugineis, tarsis 2 posticis nigris.* (Long. corp.  $3-3\frac{3}{4}$  lin.; Exp. Alar.  $6-7\frac{1}{4}$  lin.)

Te. *rufipes*. *Ziegler.*—*St. Fargeau Mon.* 81.—All. *rufipes*. *Steph. Nomen.* 2d edit. col. 127.

Shining black: mandibles dusky ferruginous; legs bright ferruginous, with the 2 hinder tarsi black; wings hyaline, slightly fuscous; the nervures, costa, and stigma fuscous.

Abundant in woods, within the metropolitan district, in June; also found in Scotland.

Sp. 47. *melanocephalus*. *Pallide luteus, capite pectorisque maculâ nigris, alis hyalinis.* (Long. corp. 3 lin.; Exp. Alar. 7 lin.)

Te. *melanocephala*. *Fabricius.*—All. *melanocephalus*. *Steph. Catal.* 336. No. 3905.

Pale luteous: antennæ with a black line above; head black; mouth and clypeus pale; mandibles pitchy at the tip; thorax pale, with 3 black spots; metathorax dusky; abdomen pale, its base dusky; legs yellowish; breast with a black spot in the middle; wings hyaline, the nervures dusky, stigma pale; in the 2nd submarginal areolet is a black dot.

The male has the basal segment of the abdomen varied with black, and the 2 apical joints spotted with the same.

Not common: found at Coombe wood in June.

## GENUS XXI.—TENTHREDO *Auctorum*.

*Antennæ* 9-jointed, generally rather long and slender, especially in the 1st section, the basal joint robust, and, with the 2nd, short, 3rd and 4th longest, each of equal length, 5th rather shorter, remainder very gradually decreasing in length and thickness: *labrum* rounded: *mandibles* 4-dentate: *clypeus* scarcely emarginated: *head* broad: *eyes* small: *ocelli* 3: *wings* ample; anterior rather long, with 2 marginal areolets, divided by a slightly curved nervure, and 4 submarginal ones, of which the 1st is somewhat rhombic, the 2nd longest and narrow, receiving 1 recurrent nervure, the 3rd triangular, receiving 2 recurrent nervures, and the 4th extending to the apex: *abdomen* rather long, somewhat obtuse at the tip in the males, a little depressed and

acute in the females: *legs* simple; posterior rather elongate; *tibiæ* furnished with a pair of longish acute spurs at the apex only: *tarsi* slender.

Although the characters, drawn from the antennæ—assigned by Leach to discriminate these insects from *Allantus*—may not, upon a rigid examination of every species, appear sufficient to warrant their separation into two genera, nevertheless there is manifestly too great a diversity of habit between them to associate them together; there is, moreover, considerable modification in the trophi, and, amongst other external differences, the clypeus is scarcely emarginated in these insects, whereas in those of the foregoing genus it is in general deeply notched: the true Tenthredines are very prone to vary;—they are most of them distinguished by having the stigma of the anterior wings of two colours, and the middle of the abdomen frequently red.

A. *Antennæ* very long and slender; posterior *legs* considerably elongated.

Sp. 1. Rapæ. *Supra nigra, capite thoraceque albo variis, subtus albida nigro maculata.* (Long. corp.  $3\frac{1}{2}$ —4 lin.; Exp. Alar. 7— $7\frac{1}{2}$  lin.)

Te. Rapæ. *Linné?*—*Steph. Catal.* 336. No. 3906.

Above black; antennæ pale beneath; head white, with the crown black; thorax varied with white, the anterior portion with a white mark resembling a Roman V; scutellum and spots behind also white; wing scales black; abdomen above with a triangular white spot on the basal segment, and the other segments occasionally with a very narrow white margin, beneath whitish, variegated with black; legs pale, 4 anterior with a black streak, 2 posterior with the femora at the apex, the tibiæ and tarsi black; wings hyaline, the costa pale, nervures and stigma black.

The male is more slender, and has the hinder legs more elongated.

Variable, some examples being more variegated with white and black than others. I possess one example with only 2 submarginal areolets in the anterior wings.

Abundant at Darenth and Coombe woods, and in other places within the metropolitan district, in June; also found in Norfolk and in Scotland.

Sp. 2. simulans. *Supra nigra, capite thoraceque maculis, abdomine striis transversis anoque albis, subtus tota flava.* (Long. corp.  $3\frac{1}{4}$ —4 lin.; Exp. Alar.  $7\frac{1}{4}$ —8 lin.)

Te. (All.) simulans. *Klug.*—*Steph. Catal.* 336. No. 3907.

Above black; antennæ with the 2 basal joints pale beneath; head yellowish, with black spots; thorax black, spotted with yellowish-white, as in Te. Rapæ; collar and wing scales yellowish; abdomen with the 5 or 6 last segments edged with whitish-yellow above, and entirely yellow beneath;



legs yellow, with a slender black line on the apex of the femora and along the 4 anterior tibiæ and tarsi, the posterior tibiæ with a line at the base, and the apex black, having a yellow ring towards the tip; tarsi fuscous, 4 anterior ones palish at the base of the joints; wings hyaline, with the nervures and stigma fuscous.

The male has the legs scarcely streaked with black, and the pale markings predominate throughout.

Rather scarce: found at Darenth wood towards the end of June.

Sp. 3. antennata. *Supra nigra, capite thoraceque flavo variegatis, subtus tota flava.* (Long. corp. 4 lin.; Exp. Alar. 9—9½ lin.)

Te. (All.) antennata. *Klug.—Steph. Catal. 336. No. 3908.*

Above black; antennæ with a pale line beneath; head yellow, variegated with black; thorax black, varied with yellow as in the foregoing; collar and wing scales yellow, the latter black at the tip; abdomen black above, the sides and under part entirely yellow; legs pale yellow, the 4 anterior with a short black streak at the apex of the femora, and a fine line down the tibiæ and tarsi; posterior femora with a short black streak at the apex within; tibiæ with a black line, interrupted towards the apex; tarsi black above, with the base of the joints pale; spurs yellow; wings hyaline, very clear, white; nervures fuscous; stigma fuscous, with the base pale.

Male nearly similar, but the legs, especially the posterior, are darker.

Also rather scarce: found at Darenth wood, and in its vicinity, in June.

Sp. 4. variegata. PLATE XXXVIII. f. 3.—*Supra nigra, flavo-varia, subtus flava, pectore maculâ utrinque nigrâ, femoribus tibiisque posticis rufis.* (Long. corp. 4½ lin.; Exp. Alar. 9½ lin.)

Te. (All.) variegata. *Klug.—Steph. Catal. 336. No. 3909.*

Black above; two basal joints of the antennæ pale; head yellow, varied with black on the crown; thorax black, or variegated with yellow, as in the foregoing species; collar black; wing scales yellow, black at the apex; abdomen with the margins of each segment above yellowish, the colour dilated triangularly in the middle of the back; 2 anterior legs pale yellowish, with a black dot at the apex of the femora, and a streak of the same on the tibiæ and tarsi; intermediate pale testaceous, with a similar spot and streak; posterior bright testaceous, the apex of the tibiæ and the tarsi black, the basal joint of the latter pale at its insertion; posterior coxæ large, with a black patch on their inner side; breast with a black spot on each side; wings hyaline, the nervures and stigma fuscous.

Apparently very scarce: I have a specimen that was taken at Darenth wood, and another found in Devonshire.

B. *Antennæ* moderate, rather stout; *hinder legs* not remarkably elongated.

a. Body *more or less depressed*.

Sp. 5. *nassata*. *Luteo-testacea, ore clypeoque luteis, dorso fusco vario, scutello lineâque infra flavescentibus.* (Long. corp. 4—6½ lin.; Exp. Alar. 8½—12 lin.)

Te. *nassata*. *Linné.—Steph. Catal.* 336. No. 3910.

Testaceous, with a luteous tinge; mouth and clypeus pale luteous; thorax slightly ferruginous on the disc, which is occasionally varied with fuscous; scutellum and a line beneath yellowish; abdomen testaceous, with a blackish line at the base of the 2 or 3 basal segments, and sometimes some dusky dots down the back; legs testaceous, the coxæ sometimes varied with black; wings hyaline, with the nervures fuscous, stigma brownish, with the base pale.

The male has the 2 basal joints of the antennæ, and the disc of the thorax, variegated with black; the nervures of several of the basal segments of the abdomen are also frequently black.

Extremely abundant on flowers throughout the metropolitan district: common also in other parts of the country, during the end of June and beginning of July; also in Scotland.

Sp. 6. *melanorhœa*. *Luteo-pallida, vertice nigro variâ; thoracis disco fusco, scutello pallido, abdominis segmentis maculâ dorsali fuscâ.* (Long. corp. 5—6 lin.; Exp. Alar. 10—12 lin.)

Te. *melanorhœa*. *Gmelin.—Steph. Catal.* 336. No. 3911.

Pale luteous; crown of the head varied with black; disc of the thorax fuscous; scutellum pale, with a yellowish tinge; abdomen with a fuscous spot on the back of each segment, sometimes very broad, and forming transverse fasciæ; legs pale luteous, immaculate; wings hyaline, with pale nervures, the stigma dusky, with the base pale.

Not common; found within the metropolitan district in June.

Sp. 7. *Rubi*. *Ferrugineo-lutea, vertice, thoracis dorso abdominisque segmento 1-mo nigris.* (Long. corp. 5 lin.; Exp. Alar. 10 lin.)

Al. *Rubi*. *Panzer Faun. Ins. Germ. Init. xci. f. 14.*—Te. *Rubi*. *Steph. Nomen.* 2d edit. col. 127.

Rusty-luteous: antennæ with the 2 basal joints above blackish; crown black; thorax with the disc dusky, with 2 oblique pale streaks; abdomen with the basal segment black, the 2 following with black dorsal spots, the rest with a minute black dot on each side; femora striped with black above; wings hyaline, yellowish, with the nervures fuscous, the costa and stigma luteous.

Also scarce; found near London, and, I believe, in Norfolk, about the middle of June.

Sp. 8. *fulviceps*. *Nigra, capite luteo-fulvo, vertice nigro, labio scutelloque flavis,*



*abdomine segmentis 3-tio ad 6-tam rufis, pedibus posticis fuscis.* (Long. corp. 4 lin.; Exp. Alar. 9 lin.)

Te. fulviceps. *Steph. Nomen. 2d edit. Appendix.*

Black: antennæ pitchy beneath; head of a tawny-luteous, with the crown black; labrum yellow; scutellum and dots beneath also yellow; abdomen depressed, with the 3rd to the 6th segments bright unspotted red; anterior legs pale testaceous; posterior dusky, with black femora; sternum pitchy; wings hyaline, with fuscous nervures and stigma, the latter rather pale at the base.

Apparently very rare; I have a single example that was taken near Bristol.

Sp. 9. *ambigua.* *Nigra, antennis abdomine brevioribus nigris, alis stigmatibus semialbo, scutello punctisque subscutellaribus albis, abdomine medio rufo.* (Long. corp. 5—5½ lin.; Exp. Alar. 9—9½ lin.)

Te. (All.) *ambigua.* *Klug.—Steph. Catal. 336. No. 3912.*

Black: antennæ pitchy beneath; mouth and orbits of the eyes luteous; thorax with the margins of the collar, a line in front, the scutellum, and a dot behind, luteous; abdomen with the 3rd, 4th, and the basal half of the 5th segments pale testaceous; femora black; hinder tibiæ yellowish, with black apex; the anterior tibiæ yellowish; wings hyaline, nervures and stigma brownish.

Common on flowers, in June, in the woods about London, especially at Darenth and its vicinity; found also in Scotland.

Sp. 10. *scutellaris.* *Nigra, abdominis medio pedibusque rufis, ore, scutello, orbitisque internis luteis, femoribus 2-bus posticis nigris.* (Long. corp. 5—5½ lin.; Exp. Alar. 10—11 lin.)

Te. *scutellaris.* *Fabricius.—Steph. Catal. 336. No. 3913.*

Black: antennæ testaceous, fuscous above; mouth, clypeus, inner orbits of the eyes, and the scutellum, luteous; abdomen with the 3rd to the 5th, and the base of the 6th segments red; legs testaceous-red, with the 2 hinder femora black; wings hyaline, with the nervures pale fuscous, the stigma darker, with its base pale.

The male has the intermediate segments of the abdomen of a dirty-testaceous, and the inures black.

Not uncommon at Coombe wood, in June, and occasionally taken at Darenth and Birch woods.

Sp. 11. *Pavida.* *Nigra, abdominis segmentis 3-bus, pedibusque anticis testaceis, ore, scutello orbitisque internis albis, femoribus posticis nigris.* (Long. corp. 5¾ lin.; Exp. Alar. 10½ lin.)

Te. *Pavida.* *Fabricius.—Steph. Catal. 336. No. 3914.*

Black: antennæ pitchy beneath; mouth, clypeus, and orbits of the eyes, white; scutellum also white; abdomen with the 3rd, 4th, and 5th segments

testaceous; 4 anterior legs pale testaceous; hinder pair with the femora black; tibiæ dull testaceous, and the tarsi fuscous; wings hyaline, fuscous, with the nervures darker; stigma fuscous, pale at the base.

Male with the intermediate segments of the abdomen dull testaceous, obscurely clouded with dusky at the base of each.

Very abundant in the neighbourhood of the metropolis, frequenting flowers on the borders of woods and hedges, in June.

Sp. 12. *ornata*. *Nigra, abdominis segmentis 5-que testaceis lineâ dorsali punctorum nigrorum, ore luteo, collare scutelloque albidis; pedibus testaceis.* (Long. corp. 5—5½ lin.; Exp. Alar. 10—10½ lin.)

Te. *ornata*. *St. Fargeau*.—*Steph. Catal.* 336. No. 3915.

Black: antennæ pitchy beneath; clypeus luteous, with a black patch, labrum and base of the mandibles also luteous; collar and scutellum whitish; abdomen with the 3rd to the 7th segments testaceous, with a row of black spots down their centre; legs entirely testaceous; wings hyaline, with the nervures fuscous, and the stigma darker at the apex, pale at the base.

Apparently rare; taken in the vicinity of the metropolis, and near Dover, in the beginning of June.

Sp. 13. *neglecta*. *Nigra, abdomine segmentis 3-tio ad 6-tam testaceis, dorso plus minusve nigro, ore scutello orbitisque internis luteis, femoribus nigro-variis.* (Long. corp. 5—5½ lin.; Exp. Alar. 10—11 lin.)

Te. *neglecta*. *St. Fargeau Mon.* 77.—Te. *subinterrupta*. *Steph. Catal.* 337. No. 3916.

Black: antennæ pitchy beneath; mouth, clypeus, and inner orbits of the eyes pale yellow; collar, scutellum, and spot beneath luteous; abdomen with the 3rd to the 6th segments pale testaceous, more or less black on the back; legs pale testaceous, the femora more or less black at the base, the hinder pair and their tibiæ entirely so; posterior tarsi dusky at the base, pale towards the tip; wings hyaline, the stigma fuscous, pale at the base.

Not uncommon in the woods about London, and throughout the metropolitan district, in the beginning of June.

Sp. 14. *spretæ*. *Nigra, ore, scutello orbitisque internis albis, abdomine segmentis 3-tio ad 6-tam subtus piceo-testaceis, supra piceo nigris.* (Long. corp. 5¼—5½ lin.; Exp. Alar. 10—10½ lin.)

Te. *spretæ*. *St. Fargeau Mon.* 78.—*Steph. Nomen.* 2d edit. Appendix.

Black: antennæ pitchy beneath; mouth, clypeus, and inner orbits of the eyes whitish; scutellum and dots beneath yellowish; abdomen with the 3rd to the 6th segment beneath pitchy-testaceous, above pitchy-black; legs pale testaceous, with the 2 hinder femora brown, or dusky; wings hyaline, with the nervures pale fuscous, stigma the same, paler at the base.

Not very common; taken at Darenth wood in June.



Sp. 15. *tristis*. *Nigra, ore, collaris margine, orbitis, scutello et punctis scutellaribus margineque segmento 1-mo abdominis flavis, abdomine segmentis 3—5 utrinque maculâ testaceâ.* (Long. corp.  $5-5\frac{1}{2}$  lin.; Exp. Alar.  $9-9\frac{1}{2}$  lin.)

Te. *tristis*. *Mus. Marsham.—Steph. Catal. 337. No. 3917.*

Black: antennæ with a fuscous line beneath; mouth pale yellow; orbits and margin of the collar also the same; scutellum, 4 spots behind it placed tetragonally, and the margin of the 1st segment of the abdomen, bright yellow, the 3rd to the 7th segments with a more or less enlarged triangular testaceous spot on each side, most conspicuous on the 4th and 5th segments, beneath entirely pitchy; legs testaceous, the base of the intermediate femora, and the hinder ones entirely black; hinder tarsi fuscous; wings hyaline, with the nervures fuscous, and the stigma paler, with its base whitish.

Seemingly very scarce: I obtained a pair from the Marshamian collection, and others subsequently captured in the vicinity of London, in June: found also in Scotland.

Sp. 16. *labiata*. *Nigra, ore anticè scutelloque albis, abdominis segmentis 3-tio ad 7-ma testaceis, immaculatis.* (Long. corp.  $5\frac{1}{2}$  lin.; Exp. Alar. 9 lin.)

Te. *labiata*. *St. Fargeau Mon. 78.—Te. apicalis. Steph. Nomen. 2d edit. col. 128.*

Black: mouth white in front; clypeus black, sometimes with luteous spots towards the base; scutellum whitish; abdomen with the 3rd to the 7th segments bright, unspotted, testaceous; legs testaceous, the intermediate femora beneath and the hinder entirely black; posterior tibiæ and tarsi fuscous; wings hyaline, with fuscous nervures and stigma, the base of the last pale.

Scarce: I procured a pair from Mr. Bainbridge's collection, that occurred in the vicinity of London.

Sp. 17. *caliginosa*. *Atra nitida, ore, scutello et maculis subscutellaribus flavis, pedibus anticis tibiisque intermediis obscurè testaceis.* (Long. corp.  $5\frac{1}{4}-6$  lin.; Exp. Alar.  $8\frac{1}{2}-11$  lin.)

Te. *caliginosa*. *Steph. Catal. 337. No. 3918.*

Deep shining black: antennæ pitchy beneath; mouth, labrum, and clypeus bright yellow; scutellum and 4 dots beneath also yellow; anterior legs (except the extreme base of the femora) and intermediate tibiæ dull testaceous, the former palest in front, the rest of the legs black, with the hinder tibiæ somewhat pitchy; wings hyaline, with the nervures and stigma pale fuscous, the base of the latter white.

Not very uncommon within the metropolitan district in June.

Sp. 18. *microcephala*. *Nigra, nitida, clypeo labro mandibulisque albidis, palpis pedibusque testaceis, orbitis internis tenue albis.* (Long. corp.  $5-6$  lin.; Exp. Alar.  $10-11$  lin.)

*Te. microcephala.* *St. Fargeau Mon.* 80.—*Faun. F. pl.* 4. f. 1.—*Te. fulvipes.* *Steph. Catal.* 337. No. 3920.

Shining black: clypeus, labrum, and mandibles whitish; palpi testaceous; scutellum whitish; abdomen entirely black; legs bright testaceous, with the hinder tarsi fuscous; wings hyaline, with the nervures and stigma fuscous, the latter pale at the base.

Taken, not very commonly, at Darenth wood in June; also found in Scotland.

*Sp. 19. ignobilis.* *Nigra, ore flavo, abdominis segmentis 3-tio 4-to et 5-to, pedibusque rufis.* (Long. corp.  $5\frac{1}{2}$  lin.; Exp. Alar. 10—11 lin.)

*Te. ignobilis.* *Klug?*—*Steph. Catal.* 337. No. 3921.

Black: labrum, clypeus, and mandibles yellow, the tip of the last brown; scutellum pale; abdomen with the 3rd, 4th, and 5th segments clear red; legs also red, the coxæ black, the apex of the hinder tibiæ and their tarsi sometimes dusky; wings hyaline, with the nervures dusky, and the stigma brownish.

The 5th segment of the abdomen is sometimes dusky at the apex above, or entirely black.

Not very common; found at Darenth and Birch woods, in June.

*Sp. 20. Coquebertii.* *Nigra, antennis abdomine subbrevioribus nigris, alis stigmatibus semialbo scutello punctisque subscutellaribus albis, abdomine rufo, basi nigra.* (Long. corp.  $4\frac{1}{2}$  lin.; Exp. Alar. 8—9 lin.)

*Te. Coquebertii.* *Klug.*—*Steph. Catal.* 337. No. 3919.

Black: antennæ somewhat shorter than the abdomen; labrum, clypeus, and base of the mandibles white, apex of the last brown; scutellum and dots behind white; abdomen with the 2 basal joints black, the rest red; legs red-brown, intermediate dusky, hinder ones black; wings hyaline, with the nervures fuscous; stigma fuscous, with the base white.

Apparently rare: I have a specimen that was caught at Darenth wood at the end of June.

*Sp. 21. dimidiata.* *Nigra, ore, scutello et maculis subscutellaris flavo-albidis, abdominis apice pedibusque rufis.* (Long. corp. 6—7 lin.; Exp. Alar. 11— $12\frac{1}{2}$  lin.)

*Te. dimidiata.* *Fabricius.*—*Steph. Catal.* 337. No. 3923.

Black: mouth and clypeus whitish-yellow; scutellum and 4 spots behind also yellowish; abdomen with the 2 basal segments black, the remainder bright testaceous-red; legs testaceous-red, with the posterior tarsi fuscous; wings hyaline, with the nervures fuscous, stigma the same, pale at the base.

Male with the hinder legs black, and with a faint white line on the inner orbits of the eyes.

Common within the metropolitan district in June.



Sp. 22. analis. *Nigra, ore, orbitis internis, scutello et maculis scutellaribus flavis, abdominis apice pedibusque rufis.* (Long. corp. 6—7 lin.; Exp. Alar. 11—12 lin.)

Te. analis. *Steph. Catal.* 337. No. 3922.

Black: mouth, inner orbits of the eyes, the scutellum, and 4 dots behind pale yellow; abdomen with the 3 or 4 basal segments black, the remainder dull testaceous; legs red; the base of the femora and the hinder tarsi dusky; wings hyaline, with the nervures and stigma brownish, the last pale at the base.—This may be an extreme variety of the preceding.

Also common within the metropolitan district in June.

Sp. 23. femoralis. *Nigra, ore, orbitis internis, scutello et maculis subscutellaribus flavis, abdominis apice pedibus anticis et tibiis intermediis rufotestaceis.* (Long. corp.  $6\frac{1}{4}$  lin.; Exp. Alar. 11 lin.)

Te. femoralis. *Steph. Nomen.* 2d edit. col. 128.

Black: mouth, inner orbits of the eyes, scutellum, and spots behind the last yellow; abdomen with the 4 basal segments glossy black, the remainder bright testaceous-red; anterior legs entirely testaceous; intermediate with the femora black, and the tibiæ and tarsi red; posterior totally black; wings hyaline, with fuscous nervures and stigma, the last pale at the base.

Taken near London, and at Dover, in June: not common.

b. Body more or less cylindric.

Sp. 24. socia. *Nigra, palpis, alarum squamis abdomine (basi excepto) pedibusque luteis, alis subhyalinis.* (Long. corp.  $3\frac{1}{2}$  lin.; Exp. Alar. 6 lin.)

Te. (All.) socia. *Klug.—Steph. Catal.* 337. No. 7924.

Head, antennæ, and thorax black; palpi and wing scales bright luteous; abdomen with the 2 basal segments black above, the rest, and the edge of the second segment, and all beneath bright luteous; legs also entirely bright luteous; wings somewhat hyaline, with the nervures fuscous, the stigma slightly testaceous; in the 2nd submarginal areolet is a black dot.

Very rare: found near London in June.

Sp. 25. Geeri. *Lutea, abdominis dorso verticeque fusco, alis stigmatè pallide testaceo.* (Long. corp.  $3\frac{1}{2}$  lin.; Exp. Alar. 7 lin.)

Te. (All.) Geeri. *Klug.—Steph. Catal.* 337. No. 3925.

Pale luteous: tip of the mandibles, eyes, crown, and ocelli black; thorax with a black patch in front; metathorax black on the sides; abdomen slightly depressed, with the basal segments more or less fuscous at the base of each on the back; the apical ones clear; under surface and legs totally pale luteous.

The male has the thorax immaculate anteriorly, and the body cylindric.

Taken at Coombe wood, at the end of May, apparently very rare.

Sp. 26. cingulata. *Nigra, antennis articulis 2-bus basi rufis abdomine segmentis, primo excepto, margine flavis.* (Long. corp. 5 lin.; Exp. Alar. 9 lin.)

*Te. cingulata.* *Fabricius.*—*Steph. Catal.* 337. No. 3927.

Black: antennæ with the 2 basal joints pale rufous; palpi pale; wing scales pale luteous; abdomen rather pitchy, with all but the basal segment distinctly edged with pale yellow; legs pale, with the base of the femora black; that of the tibiæ whitish-yellow, and the tarsi dusky; wings hyaline, slightly lutescent, the nervures, costa, and stigma yellowish, the latter with a brownish tinge: in the second submarginal areolet is a dusky dot, situated posteriorly.

Extremely abundant within the metropolitan district, especially at Coombe wood, in the beginning of June; but, although I have taken it in the last locality by hundreds, I have not seen the male, which—so far as I can make out by his German account—appears to be the case with Klug.

Sp. 27. *xanthocera.* *Nigra, antennis luteis apice nigris, abdomine segmentis, 1-mo excepto, margine flavo-albidis.* (Long. corp.  $5\frac{1}{2}$  lin.; Exp. Alar.  $9\frac{1}{2}$  lin.)

*Te. xanthocera.* *Steph. Catal.* 337. No. 3926.

Black: antennæ luteous, the 3 apical joints black; palpi pale; labrum and mandibles brown, the latter black at the tip; scales of the wings yellow; abdomen deep black, with all but the basal segment rather broadly edged with yellowish-white; legs pale testaceous, the tip of the hinder femora and base of the tibiæ whitish; the 4 posterior femora black at the base; wings hyaline, yellowish, with the nervures, costa, and stigma darker: in the middle of the second submarginal areolet is a brownish dot.

Taken near London, in June, but rare.

Sp. 28. *atricornis.* *Nigra, abdomine subdepresso segmentis, 1-mo excepto, margine tenuissimè pallidis, pedibus flavescentibus, femorum basi nigris.* (Long. corp. 5 lin.; Exp. Alar. 9 lin.)

*Te. atricornis.* *Steph. Catal.* 337. No. 3928.

Black: palpi reddish; wing scales luteous; abdomen somewhat depressed, pitchy, with all but the basal segment narrowly edged with very pale yellowish-white; legs pale yellowish, the base of the tibiæ whitish, and of the femora black; wings hyaline, the nervures fuscous, and the costa and stigma brownish: towards the apex of the second submarginal areolet is a minute blackish dot.

Also found near London, but rarely, in June.

## GENUS XXII.—DOSYTHEUS, *Leach.*

*Antennæ* 9-jointed, filiform, moderately long, the 2 basal joints short and rather stoutest, 3rd considerably longer than the 4th, which is scarcely longer than the 5th, that and the remainder scarcely diminishing in length and thickness to the apex, the terminal joint being rather the shortest: *mandibles* emar-  
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ginate; *labrum* rounded; *clypeus* deeply notched: *head* broad, produced between the antennæ: *eyes* a little prominent: *ocelli* 3: *wings* rather short; anterior with 2 marginal areolets, divided by a straight nervure, and 3 submarginal ones, the 1st small, somewhat rounded; 2nd longest, and narrow, receiving 3 recurrent nervures; 3rd broad, extending to the apex of the wing: abdomen rather short and stout, depressed and obtuse in the males, somewhat carinated and acute in the females; colours generally bright; *legs* simple, short; posterior *tibiæ* with a pair of spurs at the apex only.

The same remark, as to the relative proportion of the 3rd and 4th joints of the antennæ, will apply to one or two of the species of this genus and of *Dolerus*, but like the two foregoing there is considerable diversity of habit between the respective insects, the *Dosythei* invariably having the middle of the abdomen red, contrasted with black, whereas the *Doleri* have that part entirely black, and the sexes are scarcely dissimilar to each other, as in *Dosytheus*. I shall therefore follow Leach in considering them distinct, a consideration borne out by a slight modification of the trophi in the two genera.

Sp. 1. *Eglanderia*. *Rufus, capite pectore pleuris (maris thorace toto) abdominisque 1-mo segmento (in mare, et apice) nitido nigris, pedibus anterioribus luteis, posticis nigris, tibiis luteis, alis subnigricantibus.* (Long. corp. 4 lin.; Exp. Alar.  $7\frac{3}{4}$ — $8\frac{1}{2}$  lin.)

Te. (Dole.) *Eglanderia*. *Klug.*—*Dos. Eglanderia*. *Steph. Catal.* 337. No. 3920. Head and thorax finely punctured, the former black, and the last red in the female, but black in the male; abdomen red, with the basal segment, and a spot on the 8th, black; anterior legs dull testaceous, with the tarsi dusky; posterior black, with the tibiæ pale luteous; wings somewhat blackish, or deep fuscous, with the nervures and costa black.

Taken at Darenth wood, and at Coombe, in June and July, but not common.

Sp. 2. *anticus*. *Niger, thorace antico abdomineque basi exceptâ rufis, alis hyalinis.* (Long. corp. 5— $5\frac{1}{2}$  lin.; Exp. Alar. 10— $10\frac{1}{2}$  lin.)

Te. (Dole.) *antica*. *Klug Blattw.* 232.—*Dole. ferrugatus*. *St. Fargeau Mon.* 122.—*Dos. ferrugatus*. *Steph. Nomen.* 2d edit. col. 128.

Dull black, slightly pubescent; head and thorax finely punctured, the last with a large triangular lobate spot in front ferruginous, leaving the sides and the rest of the disc black; abdomen pale ferruginous, with the extreme base of the 1st segment black, the rest of it dusky; legs entirely black; wings hyaline, with the nervures and stigma black.

Taken at Ripley, and near Hertford, in June.

Sp. 3. *lateritius*. *Rufus, capite, pectore, scutello pedibusque nigris, alis hyalinis.* (Long. corp. 5— $5\frac{1}{2}$  lin.; Exp. Alar. 10—11 lin.)

Te. (Dole.) lateritius. *Klug.*—Dos. lateritius. *Steph. Catal.* 337. No. 3929.

Head black, punctured; thorax also punctured, rufous, with the extreme hinder portion and the scutellum black; abdomen rufous; legs totally black; antennæ shorter than the abdomen, black; wings hyaline, with a slight fuscous cloud, the nervures and costa deep black.

Rather scarce: found in the marshy places near the village of Darenth, and also on the banks of the canal near Sydenham, in June.

Sp. 4. *hyalinalis*. *Niger, collare thoraceque supra rufis, abdomine flavo, 1-mo segmento atro, pedum anteriorum genubus rufis, alis hyalinis.* (Long. corp. 4 lin.; Exp. Alar. 7—7½ lin.)

Se. *hyalinalis*. *Steph. Nomen.* 2d edit. col. 128.

Head and antennæ black, the latter short; thorax with its disc above and the collar bright red; scutellum black; abdomen with its basal segment black, the next clear yellow, in the males, with the 3 terminal joints black; legs black, anterior pair with the knees and in front testaceous, intermediate with the knees only testaceous, posterior entirely black; wings hyaline, very clear, with the nervures and stigma black.

Not common; taken at Hertford in June.

Sp. 5. *fulviventris*. *Niger, thorace supra antice abdomineque ferrugineis, hoc segmento 1-mo basi nigro, genubus anticis ferrugineis.* (Long. corp. 4 lin.; Exp. Alar. 8 lin.)

Te. *fulviventris*. *Scopoli.*—Dos. *fulviventris*. *Steph. Catal.* 337. No. 3932.

Black: thorax in front to the middle of the disc bright ferruginous, the rest black; abdomen bright ferruginous, with the base of the 1st segment black; legs black, the 4 anterior knees ferruginous; wings fuscous, with the nervures and stigma black; antennæ slender, shorter than the abdomen.

Not very common in the vicinity of the metropolis in June, at Coombe wood, &c.

Sp. 6. *Bajulus*. *Niger, abdominis apice, collare et thorace anticè rufo-ferrugineis, in hac maculâ nigrâ.* (Long. corp. 4½ lin.; Exp. Alar. 8½ lin.)

Dole. *Bajulus*. *St. Fargeau Mon.* 121.—Dos. *Bajulus*. *Steph. Nomen.* 2d edit. col. 128.

Head and thorax finely punctured, the former black, the last with its sides, scutellum, and portion beneath also black, the anterior part ferruginous-red, with a triangular black patch in the middle of the marginal front; abdomen bright ferruginous, with the basal segment black; legs black, the femora ferruginous at the apex; wings hyaline, with the nervures black.

Taken in June at Darenth wood, and in Norfolk.

Sp. 7. *xanthopus*. *Rufo-ferrugineus, capite, antennis, metathorace, scutello, pectore, abdominis segmento 1-mo, femorumque posteriorum basi nigris.* (Long. corp. 4½ lin.; Exp. Alar. 8 lin.)



Dos. xanthopus. *Steph. Catal.* 337. No. 3933.

Head and antennæ black; thorax bright ferruginous, with the metathorax, scutellum, and breast black; abdomen ferruginous, its basal segment black; femora bright rufous, the 2 hinder pair with the base more or less black; tibiæ also bright rufous, their apex dusky; tarsi dusky; wings hyaline, with the nervures, costa, and stigma black.

Taken at Hertford in June.

Sp. 8. triplicatus. *Rufo-ferrugineus, capite, sterno, thoracis dorso maculis 3-bus, pedibusque nigris, alis hyalinis.* (Long. corp.  $5\frac{1}{2}$  lin.; Exp. Alar. 10— $10\frac{1}{2}$  lin.)

Te. (Dole.) triplicatus. *Klug Blattw.* 233.—Dole. 3-maculatus. *St. Fargeau.*—Dos. 3-maculatus. *Steph. Catal.* 337. No. 3931.

Head and thorax punctured, the former black; the latter rusty-red, with 3 dorsal spots, placed 1 in front, and 1 on each side; the antennæ also black; abdomen ferruginous, with a spot at the extreme apex beneath black; legs black; antennæ the same; wings hyaline, with black nervures and stigma, their basal scales rufous.

Found in the neighbourhood of the metropolis about the middle of June.

Sp. 9. madidus. *Antennis abdomine longioribus, niger, subpubescens, abdominis medio flavo.* (Long. corp. 4 lin.; Exp. Alar. 8 lin.)

Dole. madidus. *Klug Blattw.* 233.—Dos. madidus. *Steph. Nomen.* 2d edit. col. 128.

Dull black, slightly pubescent; mandibles brown at the apex; abdomen with the 2nd to the 5th segments bright or reddish yellow, the remainder black; legs dull black, with a whitish pubescence; wings hyaline, dusky at the tips; nervures and stigma black; antennæ longer than the abdomen.

Found at Darenth wood in June, and near Windsor.

Sp. 10. timidus. *Antennis abdomine brevioribus, capite thoraceque subtilissimè punctatis, niger, abdominis medio tibiisque rufis.* (Long. corp. 6 lin.; Exp. Alar. 11 lin.)

Te. (Dole.) timidus. *Klug.*—Dos. timidus. *Steph. Catal.* 338. No. 3935.

Black: head and thorax finely punctured; abdomen with the 2 basal segments black, the 3 following red, the remainder black; legs red, the base of the femora, and of the hinder tibiæ, and the tarsi black; wings hyaline, nervures fuscous; antennæ shorter than the abdomen.

The male has the apex of the 5th segment of the abdomen black.

Taken at Coombe wood in July, but rarely; also in Hants.

Sp. 11. Junci. *Niger, abdominis medio luteo, pedum tibiis testaceis, alis hyalinis.* (Long. corp.  $3\frac{1}{2}$ —4 lin.; Exp. Alar.  $6\frac{1}{2}$ —8 lin.)

Dos. Junci. *Steph. Catal.* 337. No. 3934.

Black: head and thorax finely punctured; abdomen with the 2nd to the 6th segments bright luteous, the rest black; anterior legs testaceous, with the

base of the femora black, intermediate and posterior black, with the tibiæ testaceous; antennæ shorter than the abdomen, black; wings somewhat hyaline, rather dusky, with the nervures and stigma fuscous.

Taken in Devonshire, and near Windsor, in June.

Sp. 12. *tristis*. *Antennis abdomine brevioribus, capite thoraceque subtilissimè punctatis, niger, abdominis medio alarum squamis pedumque anteriorum tibiis totis, posticorum apice rufis.* (Long. corp.  $4\frac{3}{4}$  lin.; Exp. Alar.  $8\frac{1}{2}$  lin.)

Te. *tristis*. *Panzer*.—Dos. *tristis*. *Steph. Catal.* 338. No. 3936.

Black: head and thorax finely punctured; abdomen with the 2nd to the 5th segments testaceous-red; 4 anterior femora black, their tips, the tibiæ and basal joints of the tarsi testaceous; the base of the hinder tibiæ also testaceous, the rest of the legs and of the tarsi black; wings hyaline, with the nervures black, their scales rufous; antennæ shorter than the abdomen.

Apparently rare: taken in June, near Dover, and in Devonshire.

Sp. 13. *dubius*. *Antennis abdomine brevioribus, capite thoraceque subtilissimè punctatis, niger, abdominis medio pedibusque anterioribus rufis.* (Long. corp.  $5\frac{1}{2}$  lin.; Exp. Alar. 11 lin.)

Dole. *dubius*. *Klug*.—Dos. *dubius*. *Steph. Nomen.* 2d edit. col. 128.

Black: head and thorax very finely punctured; abdomen with the 2nd to the 5th segments, and the base of the 6th, bright testaceous-red; the remainder black; the anterior legs at the base, and the 4 hinder ones, entirely red; the tip of the anterior femora and their tibiæ and tarsi red; wings hyaline, dusky at the apex; nervures and stigma black; antennæ shorter than the abdomen.

Found, though rarely, in July, in the vicinity of London.

Sp. 14. *fuscipennis*. *Niger nitidus, abdominis medio rufo, alis nigricantibus.* (Long. corp. 4 lin.; Exp. Alar.  $7\frac{1}{2}$  lin.)

Dos. *fuscipennis*. *Steph. Nomen.* 2d edit. Appendix.

Head, thorax, legs, and antennæ entirely deep glossy black, with a delicate whitish pubescence; abdomen the same, with the 3rd, 4th, and 5th segments bright red; wings somewhat hyaline, blackish, with the nervures and stigma deep black.

Found in the south of Scotland.

### GENUS XXIII.—DOLERUS, *Leach*.

*Antennæ* rather short and stout, 9-jointed, the 2 basal joints short, and somewhat more robust; 3rd and 4th long, and equal in length, 5th and remainder gradually shortening and diminishing in length, the terminal one being a little attenuated at the apex, and about half as long as the 3rd: *mandibles* 4-dentate: *head* broad: *eyes* rather prominent: *ocelli* 3: *wings* ample, anterior long, with 2 marginal areolets, divided by a straight nervure, the



basal one longest, the 2nd nearly triangular, and 3 submarginal areolets, the 1st small and rounded, 2nd very long, curved and receiving 2 recurrent nervures; 3rd extending to the apex: *abdomen* rather stout, never fasciated with bright colours, elongate in the males, and somewhat cylindric; more robust, and acute at the apex in the females: *legs* shortish, with 2 short, acute, spurs at the apex of the tibiæ only. Larva with 16 prolegs.

As before alluded to, the insects of this genus may be known from the *Dosythei* by the abdomen being always black, or having tints of that colour, and never fasciated with red or yellow in the middle, a character invariably present in the *Dosythei*, which, although the structure of the antennæ may not in all cases be sufficient to distinguish the two genera, will at once enable the reader to discriminate them from each other: and from *Emphytus* the small, rounded, 1st submarginal areolet, is a conspicuous mark of distinction.

Sp. 1. *hæmatodes*. *Corpore nigro-cyaneo, micante, apice cano pubescente, collare sanguineo.* (Long. corp.  $4\frac{1}{2}$ —5 lin.; Exp. Alar. 9—10 lin.)

Te. *hæmatodes*. *Schrank.*—Dol. *hæmatodes*. *Steph. Catal.* 338. No. 3937.—  
Te. *collaris*. *Donovan, v. xiii. pl. 441. f. 1.*

Deep black, with a slight hoary pubescence, thickest at the apex of the abdomen, which has a blue gloss, and the exterior edges of the segments occasionally whitish; collar bright red; wings hyaline, with black nervures and stigma.

Not uncommon towards the middle of June at Darenth wood, and found also in Norfolk.

Sp. 2. *Anthracinus*. *Antennis abdomine brevioribus, capite thoraceque punctatis; ovatus, aterrimus.* (Long. corp. 4 lin.; Exp. Alar. 9 lin.)

Te. (Dol.) *Anthracinus*. *Klug.*—*Steph. Catal.* 338. No. 3938.

Ovate: body black, clothed with a delicate ashy pubescence; head and thorax strongly punctured, deep black; antennæ shorter than the abdomen; mandibles black; abdomen and legs also black; wings hyaline, the nervures, costa, and stigma black; tubercles of the metathorax pale.

Apparently very rare, taken in June at Darenth wood.

Sp. 3. *niger*. *Antennis longitudine abdominis, capite thoraceque punctatis, niger lateribus apiceque cano-subpubescens, abdomine segmentis margine subpellucidis.* (Long. corp. 4—5 lin.; Exp. Alar. 8—11 lin.)

Te. *nigra*. *Linné.*—Dol. *niger*. *Steph. Catal.* 338. No. 3939.

Deep black, with a fine hoary pubescence, especially on the sides and apex of the abdomen, the segments of which are slightly pellucid on their extreme edges; head and thorax punctate; mandibles brown at the tip; antennæ as long or longer than the abdomen; wings hyaline, with the nervures, costa, and stigma black.

Not very common; found at Darenth wood in June.

Sp. 4. coracinus. *Antennis abdomine brevioribus, ovatus, cyaneo-niger, nitidus, alis hyalinis.* (Long. corp. 4—4½ lin.; Exp. Alar. 8—8½ lin.)

Te. (Dol.) coracinus. *Klug.—Steph. Catal. 338. No. 3941.*

Ovate, shining, bluish-black; head and thorax punctate; mandibles black; metathoracic tubercles whitish; wings hyaline, the nervures and stigma brownish-black; antennæ somewhat shorter than the abdomen, which has a rich gloss.

Not uncommon at Darenth wood and near Dover, about the middle of June.

Sp. 5. fumosus. *Antennis longitudine abdominis, niger, subpubescens, abdomine segmentis margine haud pellucidis, alis infumatis.* (Long. corp. 4 lin.; Exp. Alar. 8 lin.)

Dol. fumosus. *Steph. Catal. 338. No. 3940.*

Deep black, with a slightly ashy pubescence; antennæ as long or longer than the abdomen, which is entirely black; mandibles black; metathoracic tubercles pale or white; wings hyaline, fuscous, with the nervures and stigma brownish-black.

Scarce; taken in June at Hertford.

Sp. 6. palmatus. *Antennis abdomine brevioribus, niger, subtus apiceque cano pubescens, pedum anticorum tibiis anticè testaceis, alis hyalinis.* (Long. corp. 4 lin.; Exp. Alar. 8½ lin.)

Te. (Dol.) palmatus. *Klug.—Steph. Catal. 338. No. 3942.*

Black, with a slight hoary pubescence beneath, and at the apex of the abdomen; this last has a conspicuous irregular white patch on the basal segment; the tips of the anterior femora and the anterior tibiæ, especially in front, are pale testaceous, the rest of the legs black; metathoracic tubercles white; antennæ shorter than the abdomen; wings hyaline, with the nervures and stigma black.

The male has an ovate white spot on the 5th segment of the abdomen, and sometimes a minute dot of the same colour on the margin of all the preceding segments.

Also rather scarce; found at Hertford in June, and at Darenth wood.

Sp. 7. picipes. *Niger, subtus apiceque cano pubescens, antennis pedibusque nigro piceis, alis albo-hyalinis stigmatè margine dilutiori.* (Long. corp. 3¾ lin.; Exp. Alar. 7½ lin.)

Te. (Dol.) picipes. *Klug.—Steph. Catal. 338. No. 3943.*

Black: head and thorax finely punctate; antennæ pitchy-black, shorter than the abdomen; mandibles brown at the tip; metathoracic tubercles whitish; legs pitchy-black, with the knees paler; wings hyaline, whitish, with the nervures pale; stigma brownish, with the edges paler.

Not common; found near London, in Epping Forest, August 1792.



Sp. 8. gonager. *Niger, nitidus, femoribus apice tibiisque basi luteo-testaceis.*  
(Long. corp. 4—5 lin.; Exp. Alar.  $8\frac{1}{2}$ — $9\frac{1}{2}$  lin.)

Te. gonagra. *Fabricius.*—Dol. gonager. *Steph. Catal.* 338. No. 3244.

Shining black, clothed with a thickish pubescence; head and thorax finely punctured; all the femora at the apex, and the tibiæ at the base, bright testaceous; metathoracic tubercles white; wings hyaline, with the nervures and stigma black, slightly tinted with fuscous towards the apex.

Abundant throughout the metropolitan district towards the end of June; found also at Dover, and in Norfolk and Scotland.

Sp. 9. vestigialis. *Niger, nitidus, femoribus totis, tibiis basi, luteis, alis hyalinis.*  
(Long. corp. 4 lin.; Exp. Alar. 8 lin.)

Te. (Dol.) vestigialis. *Klug.*—*Steph. Catal.* 338. No. 3915.

Shining black, clothed with a faint whitish pubescence; head and thorax finely punctured, the former rather small in proportion; femora entirely luteous, and the extreme base of the tibiæ the same; the rest of the tibiæ and the tarsi black; metathoracic spots white; wings hyaline, with fuscous nervures and black stigma.

Male with the tibiæ, except the apex of the hinder ones entirely rufous.

Rare; I have taken it at Coombe wood in June, and obtained it from Birch wood.

#### GENUS XXIV.—EMPHYTUS, *Leach.*

*Antennæ* filiform, 9-jointed, basal joint somewhat robust, 2nd small, 3 following nearly of equal length, more slender than the foregoing, the remainder gradually diminishing in length and thickness, the terminal joint ovate: *labrum* somewhat orbicular: *head* transverse: *eyes* prominent: *ocelli* 3: *thorax* ovate, subconvex: *wings* rather short, anterior with 2 marginal and 3 submarginal areolets, the former divided by a slightly curved nervure; of the others, the 1st is elongate, somewhat linear and bent, receiving 1 recurrent nervure; the 2nd short, nearly triangular, receiving 2 recurrent nervures; the 3rd extending to the tip of the wings: *abdomen* rather long, somewhat cylindric, obtuse in the males; rather depressed, broad and carinated in the females; *legs* slender; *tibiæ* with a pair of short spurs at the apex only. Larvæ with 16 prolegs.

This genus differs from the 2 foregoing, which have only 3 submarginal areolets in the anterior wings, by having the 1st considerably elongated, and the 2nd small; it also differs much in habit, and the species are often adorned with lively colours; the wings are rather short in proportion to the body: the sexes frequently vary considerably from each other.

Sp. 1. succinctus. *Niger, abdominis cingulis duobus anoque albis, pedibus albo variis, antennis apice rufescentibus.* (Long. corp.  $4\frac{1}{2}$  lin.; Exp. Alar.  $7\frac{1}{2}$  lin.)

Te. (Em.) cincta. *Klug.—Steph. Catal. 338. No. 3246.*

Black: apical half of the antennæ reddish; labrum ferruginous on its edges; abdomen with the basal segment, the apex of the 5th, and the terminal one above white; femora black; the extreme tip, and sometimes base, with the tibiæ white, the apex of the hinder ones black; tarsi reddish-white; wings hyaline, with a fuscous patch at the apex, their basal scales white.

Not uncommon, in June and July, throughout the metropolitan district; also found in Devonshire, and near Bristol.

Sp. 2. cingulatus. *Niger, ore, collaris margine, squamis, abdominis segmento 5-to, genubusque albis.* (Long. corp.  $3\frac{1}{2}$  lin.; Exp. Alar.  $7\frac{1}{2}$  lin.)

Dol. cingulatus. *St. Fargeau Mon. 117.—Em. cingulatus. Steph. Nomen. 2d edit. Appendix.*

Black: mouth, margins of the collar, wing scales, metathoracic tubercles, a triangular spot at the base of the abdomen, the 5th segment of the last both above and below, the 4 anterior femora, with their coxæ, the base of the posterior and of all the tibiæ white; the 4 anterior femora with a faint black line above, and the middle of the posterior also black; rest of tibiæ pale testaceous; tarsi brownish; wings hyaline, nervures and stigma fuscous, the last pale at the base.

Taken at Hertford in July.

Sp. 3. perla. *Niger, capitis clypeo, collare, alarumque squamis albis, pedibus pallidis, abdomine maculâ dorsali luteâ, medio subtus testaceo.* (Long. corp.  $2\frac{1}{2}$ —3 lin.; Exp. Alar.  $5$ — $5\frac{1}{2}$  lin.)

Te. (Em.) perla? *Klug.—Steph. Nomen. 2d edit. Appendix.*

Black: clypeus, collar, wing scales, and metathoracic tubercles white; abdomen with a yellowish triangular spot at the base of the 1st segment above, and the 4th and 5th segments beneath testaceous; legs pale, the hinder femora black towards the apex; tibiæ reddish-brown towards the tip; tarsi also dusky above; wings hyaline, nervures, costa, and stigma brown.

Probably the male of the foregoing species.

Also found at Hertford, in June.

Sp. 4. cinctus. *Niger, abdomine (in fæminâ) fasciâ albâ, tibiis rufescentibus (in fæminâ) basi albis.* (Long. corp. 4 lin.; Exp. Alar.  $6\frac{3}{4}$  lin.)

Te. cincta. *Linné.—Em. cinctus. Steph. Catal. 338. No. 3947.*

Black: metathoracic tubercles, triangular spot at the base of the abdomen, and the 5th segment of the latter above and its sides white; femora black, their apex white; tibiæ reddish, with the base white; tarsi also reddish; wings hyaline, nervures and stigma brown-black, the costa and base of the last yellowish.

The male wants the white fascia on the abdomen, and the base of the posterior tibiæ is not white.



The hinder coxæ and trochanters are sometimes white, and the base of the 5th segment of the abdomen black.

Common towards the end of May, and in June and July, in woods and gardens throughout the metropolitan district; also taken near Bristol.

Sp. 5. *togatus*. *Niger, alarum squamis abdominisque fasciâ (in fœminâ) albis, pedibus anterioribus totis posticorum tibiis rufescentibus, his basi albis.* (Long. corp.  $4\frac{1}{2}$ —5 lin.; Exp. Alar.  $6\frac{1}{2}$ —7 lin.)

Te. *togata*. *Fabricius*.—Em. *togatus*. *Steph. Catal.* 338. No. 3948.

Black: wing scales, metathoracic tubercles, triangular spot at the base of the abdomen, and the 5th segment of the abdomen above white; legs reddish, the middle and posterior femora black, the base of the latter and of their tibiæ white, tarsi brownish; wings hyaline, nervures and stigma dull brown, base of the last pale.

The male wants the white fascia on the 5th segment of the abdomen, and has the legs entirely rufous.

Less abundant than the last; found at Darenth wood in June and July.

Sp. 6. *melanarius*. *Niger, pedibus rufis, solis capitulis albis, alarum stigmatè semialbo.* (Long. corp. 4 lin.; Exp. Alar.  $7\frac{1}{4}$  lin.)

Te. (Em.) *melanarius*. *Klug*.—*Steph. Catal.* 338. No. 3949.

Black: antennæ slender and rather short; the tip of the mandibles brown; metathoracic tubercles white; legs red, pale at the tip, the base of the hinder femora black; tarsi dusky; wings hyaline, the nervures and tip of the stigma brown, base of the last white.

Rare: found at Darenth wood in July.

Sp. 7. *didymus*. *Niger, pedibus totis rufescentibus, alis stigmatè semi-pallido.* (Long. corp. 3 lin.; Exp. Alar.  $5\frac{1}{2}$  lin.)

Te. (Em.) *didymus*. *Klug Blattw.* 220.—*Steph. Nomen.* 2d edit. *Appendix*.

Black: antennæ rather short and thick; metathoracic tubercles white; legs black at their base, the apex of the femora, the tibiæ and tarsi pale red; wings hyaline, with their tips and the latter dusky, the anterior ones brightest, with the nervures and apex of the stigma fuscous, the base of the last pale.

Also rare: taken at Birch wood in June.

Sp. 8. *filiformis*. *Niger, pedibus alarumque costâ luteis, stigmatè fusco, squamis albis.* (Long. corp. 4 lin.; Exp. Alar.  $8\frac{1}{2}$  lin.)

Te. (Em.) *filiformis*. *Klug*.—*Steph. Catal.* 339. No. 3957.

Black, with a dark pubescence; metathoracic tubercles pale testaceous; wing scales whitish; wings hyaline, the costa yellow, nervures yellowish

at the base, fuscous at the tip, the stigma of the latter colour ; legs dull luteous, with the tips of the tibiæ and the tarsi dusky.

Not very uncommon : found in June and July at Darenth wood.

Sp. 9. tibialis. *Niger, pedum femoribus luteis, tibiis basi antennæ ante apicem albis.* (Long. corp. 4—5 lin. ; Exp. Alar. 8—9 lin.)

Te. tibialis. *Panzer.*—Em. tibialis. *Steph. Catal.* 339. No. 3958.

Black : wing scales and metathoracic tubercles yellowish ; femora bright testaceous, or luteous, 4 anterior dusky at the base ; tibiæ testaceous, broadly white at the base, posterior black at the apex ; hinder tarsi also black ; wings hyaline, with the nervures fuscous, stigma blackish ; antennæ with the 6th to the 8th joints white.

Not uncommon, in June and July, at Darenth and Coombe woods : found also near Bristol, and in Scotland.

Sp. 10. rufocinctus. *Niger, abdomine rufo-fasciato, pedum tibiis tarsisque luteis, condylis albis.* (Long. corp.  $4\frac{1}{2}$ — $5\frac{1}{2}$  lin. ; Exp. Alar. 7—8 lin.)

Te. (Em.) rufocinctus. *Klug.*—*Steph. Catal.* 339. No. 3950.—Em. fasciatus. *Curtis, v. x. pl.* 436 ♀.

Black : metathoracic tubercles and wing scales white ; mouth brownish ; abdomen with the 4th and 5th segments and the base of the 6th orange-red, and (in one of my specimens) 2 spots, of the same colour, at the base of the 3rd ; apex of anterior and intermediate femora, and of the posterior coxæ and their hinder trochanters entirely white ; tibiæ and tarsi testaceous, the latter rather dusky ; wings hyaline, with the nervures and stigma brown-black.

Taken at Darenth wood and near Bristol in June ; also at Glanvilles' Wootton.

Sp. 11. calceatus. *Niger, abdominis medio pedibusque luteis, femoribus basi nigris.* (Long. corp. 4—5 lin. ; Exp. Alar.  $6\frac{1}{2}$ —7 lin.)

Te. (Em.) calceatus. *Klug.*—*Steph. Catal.* 332. No. 3951.

Black : mandibles brown at the tip ; metathoracic tubercles white ; abdomen with the 4th and 5th segments bright orange-red ; femora all black at the base ; the apex with the tibiæ and tarsi orange-red, the latter dusky above and at the tip ; wings hyaline, with the nervures and stigma fuscous, the base of the last pale.

Found at Darenth and Birch woods, and near Bristol and Dover, in July ; also in Battersea fields.

Sp. 12. serotinus. *Niger, abdomine pedibusque flavis, alarum squamis subtetaceis.* (Long. corp. 4— $4\frac{1}{2}$  lin. ; Exp. Alar. 8— $8\frac{1}{2}$  lin.)

Te. (Em.) serotinus. *Klug.*—*Steph. Catal.* 339. No. 3955.

Black : metathoracic tubercles and wing scales pale testaceous ; abdomen, except the 2 basal segments above, and the base of the segments beneath,



which are black, bright luteous-yellow; legs the same, with the apex of the hinder tibiæ and the tarsi dusky; wings hyaline, yellowish at the base, with the nervures fuscous, stigma pale fuscous. There is sometimes a pale testaceous streak between the eyes, on each side.

Not uncommon, in June and July, in hedges and woods within the metropolitan district.

†Sp. 13. *cereus*. *Niger, nitidus, abdomine pleuris pedibus alarumque squamis flavis*. (Long. corp. 4 lin.; Exp. Alar.  $8\frac{1}{2}$  lin.)

Te. (Em.) *cerea*. *Klug.—Steph. Catal. 339. No. 3956.*

Black, shining: head with an obscure testaceous line on each side between the eyes; pleuræ and wing scales yellow; metathoracic tubercles pale; abdomen with the 1st and base of the 2nd segment black, the rest yellow; legs yellow, the base of the hinder trochanters black; the hinder tibiæ and tarsi black at the apex; wings hyaline, with the nervures and stigma brown.

Rare: found in Devonshire in July.

Sp. 14. *immersus*. *Niger, abdomine utrinque macularum grisearum serie, pedibus luteis*. (Long. corp.  $2\frac{1}{2}$ —3 lin.; Exp. Alar.  $5\frac{1}{2}$ —6 lin.)

Te. (Em.) *immersus*. *Klug.—Steph. Catal. 339. No. 3960.*

Black: collar on its margins and wing scales yellowish; metathoracic tubercles pale; abdomen with 2 griseous spots on each of the 4 basal segments, forming a row on both sides; legs reddish-yellow, with black coxæ and trochanters; wings hyaline, pale, with the nervures and stigma pale brownish.

Also scarce; taken in the vicinity of London in June.

Sp. 15. *impressus*. *Niger, nitidus, abdominis singulo segmento puncto utrinque cinereo subimpresso*. (Long. corp. 3 lin.; Exp. Alar.  $5\frac{1}{4}$  lin.)

Te. (All.) *impressa*. *Klug.—Em. impressus. Steph. Catal. 339. No. 3961.*

Black: mouth pale; collar white on the margins; abdomen long, each segment with an ashy dot of a rounded form and somewhat impressed; legs black, the anterior with the tibiæ pale, hinder pair with the knees only pale; wings hyaline, with the nervures, stigma, and a dot on the basal areolet black.

In my specimen the right wing has 4 submarginal areolets and the left only 3, the nervure forming the 4th is, however, very pale.

Taken in Norfolk: apparently rare.

Sp. 16. *pallimaculatus?* *Niger, abdomine utrinque macularum pallidarum serie, pedibus nigris*. (Long. corp.  $2\frac{3}{4}$  lin.; Exp. Alar.  $5\frac{1}{2}$  lin.)

Dol. *pallimacula*. *St. Fargcau Mon. 117?—Em. pallimaculatus. Steph. Nomen. 2d. edit. Appendix.*

Black: collar and metathoracic tubercles pale; abdomen on each side with

about 5 pale spots, placed in a row, one on each segment, from the 2nd ; legs black, 4 anterior pale in front, and the posterior with the knees pale ; wings hyaline, with the nervures and stigma dusky.

Not common : found at Coombe wood in July, and in Dorsetshire.

Sp. 17. patellatus. *Niger, pedum genubus, anticorumque tibiis testaceis, alis stigmatate fusco.* (Long. corp. 3 lin. ; Exp. Alar.  $5\frac{1}{2}$  lin.)

Te. (Em.) patellatus. *Klug.—Steph. Catal. 339. No. 3959.*

Black : antennæ longer than the thorax ; metathoracic tubercles and wing scales whitish ; legs black, the apex of the femora yellowish, the anterior tibiæ and tarsi dull testaceous ; wings hyaline, with the nervures black.

Taken within the metropolitan district in June and July, and near Dover, and in the Isle of Portland, in May.

Sp. 18. nigricans. *Fusco-niger, ore pedibusque testaceis.* (Long. corp. 2 lin. ; Exp. Alar. 4 lin.)

Te. (Em.) nigricans. *Klug.—Steph. Catal. 339. No. 3952.*

Blackish-brown : antennæ as long as the abdomen ; labrum and tips of the mandibles testaceous ; legs pale testaceous, with dusky trochanters ; wing scales yellowish ; wings hyaline, with the nervures and stigma brownish.

Found near London in gardens and about hedges, not common, in June.

Sp. 19. coronatus. *Nigra nitidus, labro, alarum squamis pedibusque albis.* (Long. corp. 3 lin. ; Exp. Alar. 6 lin.)

Te. (Em.) coronatus. *Klug.—Steph. Catal. 339. No. 3953.*

Black, shining : labrum and wing scales white ; the metathoracic tubercles fuscous ; trochanters black at the base, the apex, tibiæ, and tarsi white ; wings hyaline, with the nervures and stigma brown-black.

Taken at Dover in July, and occasionally at Darenth wood.

Sp. 20. gilvipes. *Niger, pedibus pallido variis.* (Long. corp.  $2\frac{1}{2}$  lin. ; Exp. Alar.  $5\frac{1}{2}$ —6 lin.)

Te. (Em.) gilvipes. *Klug.—Steph. Catal. 339. No. 3954.*

Shining black : palpi, wing scales, metathoracic tubercles and legs pale ; posterior femora sometimes black towards the tip ; wings hyaline, with the nervures and stigma black.

Taken at Dever and at Darenth wood in June.



GENUS XXV.—HETERARTHURUS\* *mihi*.

*Antennæ* 12- to 15-jointed, the 1st and 2nd short, 3rd nearly twice as long as the 4th, remainder short and distinct: *wings* ample; anterior with 2 marginal areolets and 4 submarginal ones, the transverse nervures which form the first areolet only commenced; the 2nd areolet receiving 1 recurrent nervure; the 3rd receiving 2.

I have employed the above generic name to designate the only British species of this genus, inasmuch as I have not seen the insect, and without a comparison of it with the other discordant Tenthredinideous insects included by Klug in his division, none of which I know, I am at a loss to say how far it may differ in habit—the British species forms the type of the genus *Decatria* (Westwood), which name, of course, may be eventually employed, should the insect prove different from the other species alluded to above.

†Sp. 1. ochropoda. *Niger, nitidus, antennarum articulis 2-bus basalibus pedibusque flavescens, alis (præsertim ad basin) infumatis, antennis 13-articulatis.* (Long. corp.  $2\frac{3}{4}$  lin.; Exp. Alar.  $5\frac{1}{2}$  lin.)

Te. (Emp.) ochropoda. *Klug Blattw.* 211.—*Decatria fuscipennis.* Westwood, in *Lardner's Cyclop.* (adhuc inedit.)—Het. ochropoda. *Steph. Nomen.* 2d edit. *Appendix.*

Shining black: 2 basal joints of the antennæ pale yellow; mandibles brown, with the base white; wing scales and metathoracic tubercles white; coxæ and trochanters black, the latter pale yellowish at the tips; femora and tibiæ yellowish, the latter palest at the base; wings dusky at the base, hyaline at the apex.

There was a specimen of this species in Mr. Ingpen's collection, which I believe he found in Kent.

GENUS XXVI.—MELICERTA† *mihi*.

*Antennæ* slender, the 2 basal joints short, of equal length, the 3rd linear, nearly as long again as the 4th, the 5th and 6th almost equal in length, and rather shorter than the 4th (remainder broken off); *labrum* transverse, entire: *clypeus* not emarginated: *head* broader than the thorax, slightly produced in front between the *eyes*, the latter rather large: *ocelli* 3: *thorax* somewhat globose: *wings* shortish; anterior with 2 marginal areolets, the basal one small, ovate-triangular, the other ample, and 3 submarginal ones, the 1st elongate curved, receiving 1 recurrent nervure; 2nd shorter, some-

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\* 'Ετερετης diversitus, αρθρον articulus.

† Melicerta, Nomen viri.

what ovate, shuttle-shaped, with the ends truncate, and receiving 2 recurrent nervures; 3rd extending to the apex: *abdomen* long and somewhat cylindrical: *legs* slender, simple, with 2 minute sharp spurs at the apex of the tibiæ.

This genus not only differs in general habit from *Emphytus*, but the structure of the wings is totally dissimilar—somewhat resembling that of *Dolerus* and *Dosytheus*, inasmuch as the 1st submarginal areolet is elongated, the 2nd small; but the great difference in the antennæ, form of thorax, abdomen, and legs, in addition to the total diversity of colour, sufficiently point out its distinction from those genera and from *Emphytus*, with which it has been improperly associated.

Sp. 1. *ochroleucus*. *Albido-luteus, pedibus pallidioribus capite pleuraque strigis 2-bus atris, thorace lineis 2-bus anticis, abdominis segmentorumque basi fuscis.* (Long. corp.  $2\frac{1}{4}$  lin.; Exp. Alar.  $4\frac{1}{3}$  lin.)

N. G. *ochroleucus*. *Steph. Catal.* 339. No. 3962.—*Mel. ochroleucus*. *Steph. Nomen.* 2d edit. col. 129.

Yellowish-white: head deep shining black; labrum and antennæ ochreous; thorax with 2 abbreviated fuscous streaks in front, and 2 deep black streaks on the sides beneath the wings; abdomen paler than the thorax, the base of each segment, excepting the terminal one, with a broad fuscous fascia; legs entirely pale ochreous-white; wings hyaline, pale ochreous, with the nervures and stigma yellowish.

Taken in Devonshire, apparently rare, I believe in June.

§ 7. *Antennæ* composed of numerous articulations, moderate or elongated: *body* moderate, depressed: *wings* with 2 marginal and 4 submarginal areolets: posterior *tibiæ* with spurs in the middle.

## GENUS XXVII.—TARPA, *Fabricius*.

*Antennæ* pectinated or serrated, the 2 basal joints straight, the remainder obliquely inserted; 1st and 3rd joints elongate, the 2nd very short, the rest moderate: *mandibles* large, deeply bidentate at the apex: *labrum* elongate, its *palpi* with the joints equal: *head* suborbiculate, as large as the thorax: *eyes* moderate: *ocelli* 3: *wings* short, broad, rounded at the apex; anterior with 2 marginal areolets, the basal one semicircular, the other thrice as large; and 4 submarginal ones, the 1st small, the 2 next nearly equal to each other, the 2nd receiving 1 recurrent nervure, the 3rd receiving 2, the 4th not extending to the apex: *legs* slender; the 4 posterior *tibiæ* with 2 spurs at the apex, and 2 in the middle, on the inner edge.

*Tarpa* differs, not only in general habit, from *Lyda*, but in several minor variations of structure, of which one of the most conspicuous



external ones consists in the 4 hinder tibiæ possessing each but a single pair of rather elongate sharp spurs in the middle of their inner edge; *Lyda* having in addition thereto a single one placed higher up towards the femora; the antennæ are also very different in the two genera, the body less depressed in *Tarpa*, the wings not so ample, &c.

†Sp. 1. *cephalotes*? *Atra*, capite maculis, collaris marginibus utrinque maculisque prope scutellum binis, abdomine fasciis maculisque flavis. (Long. corp. 5—5½ lin.; Exp. Alar. 10—11 lin.)

Te. *cephalotes*. *Fabricius*?—*Steph. Catal.* 339. No. 3963.

Deep black: head with 3 spots between the eyes, and an interrupted line behind, the margins of the collar on each side, and 2 streaks near the scutellum, a dot on the pleuræ, the basal segment of the abdomen entirely, and the hinder margin of the 4th to the 8th, and 2 fasciæ beneath yellow; antennæ ferruginous, with the 2nd joint and the apex black; legs testaceous, with the tibiæ yellow, and the 4 anterior femora at the base, all the coxæ, and the hinder pair of spurs, black.

Found near Bristol, but very rare.

Sp. 2. *Panzeri*. *Atra*, antennarum scapo, capitis maculis, thoracis lobo antico, maculâ dorsali triquetra maculisque scutellaribus, abdominis punctis lateralibus fasciisque posticis flavis. (Long. corp. 5 lin.; Exp. Alar. 10 lin.)

Ta. *Panzeri*. *Leach*.—*Steph. Catal.* 339. No. 3964.

Black: head with 3 spots between the eyes and an interrupted line behind, the margins of the collar on both sides, 2 streaks on the disc, and 2 near the scutellum, a dot on the pleuræ, abdomen with its membrane, and the hinder margin of all the segments—the first 2 interrupted—2 ventral fasciæ, and the legs, yellow; the 4 anterior femora black at the base; tarsi luteous; antennæ ferruginous, with the basal joint yellow.

Taken at Woodland, near Plymouth, by Dr. Leach, to whom I am indebted for the species.

†Sp. 3. *Fabricii*. *Atra*, capitis maculis, thorace margine antico, maculisque prope scutellum binis abdomine fasciis maculisque albidis. (Long. corp. 7 lin.; Exp. Alar. 12¼ lin.)

Ta. *Fabricii*. *Leach*.—*Samouelle* 266. (!)—*Steph. Catal.* 339. No. 3965, note.

Black: head with 2 spots between the eyes, the hinder margin on both sides, the anterior angles of the thorax, and 2 streaks near the scutellum, with a dot on the pleuræ, abdomen with its membrane, 2 fasciæ, a dot on each side the apex and ventral fasciæ whitish; antennæ ferruginous, with the 2 basal joints deep black; legs luteous, with all the coxæ and the base of the 4 anterior femora black.

Introduced by Samouelle as British, but improperly.

GENUS XXVIII.—LYDA, *Fabricius*.

*Antennæ* setaceous, consisting of numerous articulations, stoutest in the males, the basal joint most robust, 2nd minute, 3rd not longer than the 1st, the remainder very gradually decreasing in length and thickness to the end, the terminal joint being minute: *clypeus* semicircular, nearly concealing the mouth: *mandibles* strongly bidentate: *head* very large, somewhat orbicular, or, viewed from above, subquadrate: *eyes* small, prominent: *ocelli* 3: *thorax* broad, slightly convex: *wings* large and broad; anterior with 2 marginal areolets, the 3 basal ones being complete, the 1st smallest, nearly triangular, the 2nd elongate and curved, the 2nd nearly parallelogrammic, the 4th incomplete, not extending to the apex: *abdomen* generally broad and depressed, terminal joint elongate in the male; *ovipositor* short: *legs* slender, shortish; the 4 posterior *tibiæ* with a single spur in the middle, 2 below the middle and 2 at the apex. Larvæ gregarious, without prolegs, the apex terminated with 2 horn-like protuberances.

The conspicuous and generally beautiful insects included in this fine genus may be readily known from *Tarpa*, by having the antennæ simple, the body broader and more depressed, the wings also broader, and the areolets somewhat dissimilar; and, in addition, the 4 posterior *tibiæ* have only 1 spur in the middle, a pair below the middle, and another pair at the apex. The species are mostly very rare, although the larvæ are gregarious, which must account for some of them being somewhat common in particular localities, as hereafter mentioned.

Sp. 1. *Sylvatica*. *Atra, antennis, articulo basali suprâ excepto, thoracis maculis, pedibusque luteis, femorum basi coxisque nigris*. (Long. corp.  $4\frac{1}{2}$ — $5\frac{1}{2}$  lin.; Exp. Alar.  $7\frac{1}{2}$ — $9\frac{1}{4}$  lin.)

Te. *Sylvatica*. *Linné*.—Ly. *Sylvatica*. *Steph. Catal.* 340. No. 3966.

*Antennæ* luteous, with the basal joint black above; head black, with a spot behind, and the palpi luteous; mandibles testaceous; thorax black, with the wing scales and scutellum luteous; abdomen black; legs luteous, with the base of the femora and the coxæ black; wings hyaline, slightly flavescent, with the nervures brownish, and stigma black.

Male with the antennæ longer, and the upper margin of the clypeus narrowly edged with yellow.

Not very uncommon: taken in June and July in hedges on the borders of woods within the metropolitan district, and in Devonshire.

Sp. 2. *Stigma*. *Nigra, antennis luteis, collaris margine, capitis thoracisque maculis pedibusque flavis, femorum posticorum basi coxisque nigris*. (Long. corp. 5 lin.; Exp. Alar. 10 lin.)

Ly. *Stigma*. *Steph. Catal.* 340. No. 3967.



Antennæ luteous; head black, with a streak behind the eyes yellow; palpi luteous; mandibles testaceous; thorax black, with the margins of the collar yellow; the wing scales, scutellum, and spot behind also yellow; abdomen black, the 2nd segment faintly edged with yellow; anterior legs entirely yellow, posterior the same, with the base of the femora and the coxæ black; wings hyaline, with the nervures yellowish, and stigma deep black.

Found at Birch wood in June.

Sp. 4. *fumipennis*. *Nigra, antennis fuscis, basi flavis immaculatis, alis subinfumatis*. (Long. corp. 5 lin.; Exp. Alar.  $9\frac{1}{2}$  lin.)

Ly. *fumipennis*. *Curtis, fo. 381.—Steph. Nomen. 2d edit. col. 129.*

“Antennæ fuscous towards the apex, yellow at the base, without any black spot on the upper side of the 1st joint, and the wings are stained brownish, instead of a yellow tint:” otherwise similar to Ly. *Sylvatica*.—*Curtis, l. c.*

Taken in a garden in Norfolk, by Mr. Curtis.

Sp. 5. *pratensis*. *Capite thoraceque nigro flavoque variis, abdomine nigro, margine ferrugineo*. (Long. corp. 5 lin.; Exp. Alar.  $10\frac{1}{2}$  lin.)

Ly. *pratensis*. *Fabricius.—Steph. Catal. 340. No. 3969.*

Head and thorax black, varied with yellow; abdomen black above, with the sides more or less yellow, beneath luteous; legs luteous, the femora black at the base above; wings hyaline, with the nervures and stigma yellow; antennæ dusky luteous, with the basal joint black at its origin.

Rare: taken at Darenth wood in June.

Sp. 6. *marginata*. *Nigra, capite testaceo vertice nigro, collare thoraceque subtus pallide testaceis, abdomine testaceo marginato, pedibus pallidis*. (Long. corp. 5 lin.; Exp. Alar. 10 lin.)

Ly. *marginata*. *St. Fargeau Mon. 12.—Steph. Nomen. 2d edit. col. 129.*

Head and antennæ pale testaceous, crown black; thorax black, with the collar and under surface pale testaceous; abdomen above black, with the margin alone very narrowly edged with testaceous; legs pale; wings hyaline.

Also rare; found in Devonshire and in Pembrokeshire, by Capt. Blomer.

†Sp. 3. *Cynosbati*. *Nigra, pedibus testaceis, posticis nigro alboque annulatis*.

Te. *Cynosbati*. *Linné.—Turton (!)—Ly. Cynosbati. Steph. Catal. 340. No. 3978, note.*

Antennæ, head, and thorax black; abdomen linear and black; legs testaceous, the posterior ones annulated with black and white.

Indicated by Turton as British, but without any authority.

Sp. 7. varia. *Ferruginea, capite luteo nigro vario, thorace nigro luteo vario, abdominis segmentis 1-mo toto, 2-do, 3-tio, 7-timo, 8-vo, basi nigris, femoribus tibiisque luteis.* (Long. corp.  $4\frac{1}{2}$  lin.; Exp. Alar.  $10\frac{1}{2}$  lin.)

Ly. varia. *St. Fargeau Mon. 9.—Faun. F.\* pl. 14. f. 4.*

Antennæ ferruginous, paler beneath; the basal joint luteous, with a black streak above; head luteous, varied with black; mandibles luteous, with the apex ferruginous; thorax black, varied with luteous; scutellum also luteous; abdomen ferruginous, with the 1st segment entirely, the 2nd except the margin, and the 3rd, 7th, and 8th at the base black; legs luteous, with the tarsi pale ferruginous; wings hyaline, with fuscous nervures, and yellow stigma.

Not common: found in the vicinity of Darenth wood in June.

Sp. 8. fallax. *Lutea, vertice, thoracis dorso, sterno, abdominis basi et apice nigris, segmentis intermediis anoque testaceis, antennis tarsisque testaceis.* (Long. corp. 4 lin.; Exp. Alar. 8 lin.)

Ly. fallax. *St. Fargeau Mon. 13.—Ly. tæniata. Steph. Nomen. 2d edit. col. 129.*

Antennæ luteous, with the base luteous, and a faint dusky line above; head pale luteous, with the vertex entirely yellow, in some a faint yellow lunule behind the eyes; thorax black above, beneath and sides luteous, with a black sternum; abdomen entirely luteous beneath, above with the 1st and 2nd segments black, the 3rd black, with a testaceous spot on each side, 4th and 5th testaceous, with the base black in the middle, the rest black, with testaceous sides, and the apex also testaceous; legs luteous, with the tarsi testaceous; wings hyaline, with the costa and stigma luteous, and nervures testaceous.

Also scarce: taken in Scotland, at the end of June.

Sp. 9. hortorum. *Atra, abdomine medio rufo, scutello pedibusque pallidis.* (Long. corp.  $5\frac{1}{4}$  lin.; Exp. Alar. 10 lin.)

Ly. hortorum. *Klug?—Steph. Catal. 340. No. 3973.*

Antennæ luteous, the basal joint black, and the 2nd testaceous; head black, with a minute yellow dot on the inner orbit of the eyes on the crown; mandibles testaceous; thorax black, with the wing scales and a spot before them yellow, the scutellum and a spot on the metathorax whitish; abdomen black, with the 3rd to the 5th segments, the margins of the 6th, and back of the 2nd bright red; the 3 intermediate with a minute black dot on each side; legs whitish-yellow; wings hyaline, the nervures pale testaceous, stigma black.

\* It may be necessary to state that the references to this work in my Catalogue were made from an actual examination of a copy (now in Mr. Hope's possession) in the winter of 1828.



Rather scarce: taken at Coombe wood towards the end of June, and at Hertford in July.

Sp. 10. Arbustorum. *Nigra, abdomine medio rufo, scutello punctoque alarum albidis.* (Long. corp.  $5\frac{1}{2}$  lin.; Exp. Alar.  $10\frac{1}{2}$  lin.)

Te. Arbustorum. *Fabricius.*—Ly. Arbustorum. *Steph. Catal.* 335. No. 3975.

Antennæ and head black; mouth luteous; thorax black, with the collar and scutellum whitish; abdomen black, with the 3rd to the 5th segments ferruginous; legs testaceous; wings hyaline, with the nervures and stigma fuscous, the latter whitish at the base.

Probably a variety of the preceding species.

Also taken in hedges at Coombe wood at the end of June or beginning of July.

Sp. 11. cingulata. *Nigra, capite posticè utrinque lunulâ albidâ, abdominis medio rufo-testaceo, nigro fasciato, pedibus antennisque pallidè testaceis, his basi nigris.* (Long. corp. 5 lin.; Exp. Alar.  $9\frac{1}{2}$  lin.)

Pa. cingulata. *Latreille.*—Ly. cingulata. *Steph. Catal.* 340. No. 3979.

Antennæ pale testaceous, with the 2 basal joints black, the terminal ones fuscous; head black, with a whitish lunule on each side behind the eyes; palpi pale; mandibles testaceous; margins of the collar and scutellum whitish; abdomen black, the 3rd segment rusty-testaceous on the margin, the 2 following of the same hue with the base black; the extreme edge of all the segments beneath whitish; wings yellowish, or pale testaceous, hyaline, with the nervures and stigma black.

Very scarce: taken near Darenth wood in June.

Sp. 12. inanita. *Atra, capite anticè et postice utrinque, alarum stigmatè pedibusque pallidis, abdominis medio rufo.* (Long. corp. 5 lin.; Exp. Alar.  $9\frac{1}{2}$ — $10\frac{1}{2}$  lin.)

Te. inanita. *Villers.*—Ly. inanita. *Steph. Catal.* 340. No. 3974.

Head black; mouth and a spot behind each eye testaceous; thorax black; abdomen black, with the 2nd to the 5th, and the last, segments pale testaceous; legs entirely pale testaceous; antennæ the same; wings hyaline, with the nervures and stigma brown, the last pale at the base.

Male with the basal joint of the antennæ luteous; abdomen black, with the 4th and 5th segments, a spot on each side of the 3rd, the lateral margins of the hinder ones, and the terminal one pale luteous, all beneath luteous; sides of the thorax (or collar) luteous; legs pale luteous.

Taken at Birch wood and at Hammersmith towards the end of May and the beginning of June, but rare.

Sp. 13. Sylvarum. *Pallide ochracea, capite thoraceque nigro punctatis, sterno abdomineque supra nigris hujus segmentorum marginibus tenuissimè flavis.* (Long. corp.  $4\frac{1}{2}$  lin.; Exp. Alar.  $8\frac{1}{2}$  lin.)

Ly. sylvarum. *Steph. Catal.* 340. No. 3971.

Head pale ochreous, with 2 subquadrate black spots on the face and 6 on the crown; mandibles dusky at the tip; thorax of a paler tint, with a black streak in the middle in front, 1 on each side at the base of the wings, 3 confluent ones on the middle of the disc before the scutellum, and the metathorax entirely black; collar and pleuræ yellow; sternum black; abdomen yellow beneath, black above, with the margin of each segment narrowly edged with pale yellow, expanding into a small dot on the sides, which are brighter yellow; legs pale yellow, with a black streak on all the femora behind; apex of the tibiæ and the tarsi rather orange; antennæ luteous, with the 2 basal joints yellow, and spotted with black above; wings hyaline, with a slight yellowish tinge; nervures and stigma very pale yellow.

Apparently very rare: I have seen but my own specimen, which was taken in the vicinity of the metropolis, in June.

Sp. 15. aurita. *Atra capitis clypeo maculâque genarum, antennis pedibus abdomineque flavis.* (Long. corp. 5 lin.; Exp. Alar. 10 lin.)

Ly. aurita. *Klug.*—*Steph. Catal.* 340. No. 3968.

Head black, with the clypeus and a spot on the cheeks yellow; thorax black; abdomen yellow, its 1st segment and a spot on the 2nd black; legs and antennæ yellow; wings hyaline, with the nervures and stigma yellow.

Also rare, and found near London in June.

Sp. 16. depressa. *Capite thoraceque nigro flavoque variis, abdomine pedibusque flavescens.* (Long. corp.  $4\frac{1}{2}$  lin.; Exp. Alar.  $9\frac{1}{2}$  lin.)

Te. depressa. *Schränk.*—Ly. depressa. *Steph. Catal.* 340. No. 3970.

Head and thorax varied with yellow; sternum black, with an oblique yellow streak on both sides; abdomen yellowish, with the 1st and 2nd segments occasionally black; legs luteous-yellow; wings yellow, with the nervures and stigma of a saffron hue; antennæ luteo-testaceous.

Rare: taken at Coombe, Darenth, and Birch woods, and near Manchester in June and the beginning of July.

Sp. 17. flaviventris. *Capite thoraceque luteo nigroque variis, pedibus abdomineque flavescens, hoc basi supra nigro.* (Long. corp.  $5-6\frac{1}{2}$  lin.; Exp. Alar.  $11\frac{1}{2}-12\frac{1}{4}$  lin.)

Te. flaviventris. *Retzius.*—Ly. flaviventris. *Steph. Nomen.* 2d edit. Appendix. Antennæ fuscous, luteous at the base; head and thorax black, varied with

†Sp. 14. flava. *Lutea, oculis nigris.*

Te. flava. *Linné.*—*Turton (!)*—Ly. flava. *Steph. Catal.* 340. No. 3972, note.

Entirely yellow, with black eyes; body inflated; wings somewhat hyaline, with the nervures and stigma pale testaceous.

Introduced as British by Turton, but improperly.



luteous ; abdomen yellow, with the 2 basal segments more or less black on the back, the remainder fuscous at the base ; legs luteous, the 4 anterior femora spotted with black ; wings fuscous, especially at the apex, with the nervures black.

Taken at Darenth wood, in July, but very rare.

Sp. 18. *Betulæ*. PLATE XXXV. f. 3.—*Lutea, thorace anoque nigris, alis fuscis, disco hyalino, flavo venoso.* (Long. corp.  $6\frac{1}{2}$  lin. ; Exp. Alar.  $12\frac{1}{2}$  lin.)

Te. *Betulæ*. Linné.—Ly. *Betulæ*. Steph. Catal. 340. No. 3980.

Antennæ and head bright pale testaceous, with a subquadrate spot on the crown and the mandibles at the tip black ; thorax with the collar bright testaceous, the disc, sternum, metathorax, and scutellum deep black ; abdomen pale testaceous, with the 1st and apical segments, and a transverse line on the 8th, black ; legs pale testaceous ; wings hyaline on the disc, with the nervures yellowish, and a distinct curved transverse fuscous fascia towards the apex, the stigma luteous.

This splendid insect is found at Birch wood in July, but appears to be very rare : it has also been taken in Devonshire.

Sp. 19. *lutescens*. *Nigra, thoracis dorso maculis tribus testaceis, abdomine flavo, pallide marginato, segmentisque 2-bus basalibus atris.* (Long. corp. 5 lin. ; Exp. Alar. 11 lin.)

Ly. *lutescens*. St. Fargeau.—Steph. Catal. 340. No. 3977.

Antennæ black, testaceous beneath ; head black, with a spot between the antennæ, the mandibles and the palpi luteous ; thorax black, with a testaceous spot on each side of the disc, and 1 on the scutellum ; abdomen luteous, with the sides paler, and the 2 basal segments black ; legs pale luteous ; wings somewhat fuscous, with a transverse cloud towards the apex.

Found, but very rarely, in the vicinity of the metropolis.

Sp. 20. *fasciata*. *Nigra, maculâ frontali, abdominis apice, pedibusque flavis, alis infuscatâ fasciâ transversali pone medium saturatiore.* (Long. corp.  $5\frac{1}{4}$  lin. ; Exp. Alar.  $11\frac{1}{2}$  lin.)

Ly. *fasciata*. Curtis, v. ix. pl. 381.—Steph. Nomen. 2d edit. col. 129.

Head black ; mouth and a somewhat triangular spot between the antennæ, and sometimes a dot behind each eye, yellow ; mandibles ferruginous at the tip ; wing scales yellow ; abdomen black at the base, the membrane at the edge of the basal segment yellowish, the 5th luteous in the middle, the remainder entirely so, and all from the 3rd with a yellow spot on each side ; legs yellow, base of coxæ and of the 4 anterior femora black ; tarsi fulvous ; antennæ luteous at the base ; wings yellowish-brown, anterior with a darker fascia arising at the stigma, which, with the nervures, is pitchy-black.

Taken at Darenth wood in the beginning of June, and at Ripley on the 30th of May last, in a garden.

Sp. 21. *erythrocephala*. PLATE xxxviii. f. 4.—*Cærulea, alis fuscis, capite (fæmineo) rubro (masculo anticè testaceo)*. (Long. corp.  $4\frac{1}{4}$  lin.; Exp. Alar.  $10\frac{1}{2}$  lin.)

Te. *erythrocephala*. Linné.—Ly. *erythrocephala*. Steph. Catal. 340. No. 3981. Antennæ black; head bright testaceous, with the apex of the mandibles and a quadrate patch on the crown, in which the ocelli are placed, blue-black; thorax and abdomen also entirely rich blue-black; legs the same, with the tip of the anterior femora and the tibiæ ferruginous; wings violet-brown. The male has the head blue-black, with the mouth and all beneath the antennæ testaceous.

Extremely rare: found in June near Bristol, and in the west of England.

§ 8. *Labrum* minute. *Antennæ* consisting of numerous articulations, about 21, clavate, or filiform: *collar* long and narrow: *ovipositor* exserted.

### GENUS XXIX.—CEPHUS, Latreille.

*Antennæ* moderate, slightly clavate, thickening gradually from the base to near the apex; basal joint largest, globose; 2nd very short, subglobose; 3rd, 4th, and 5th elongate, 4th being longest, 6th to the 9th gradually decreasing in length, the remainder very short and transverse, apical one ovate: *palpi* with the penultimate joint short, oval, sometimes eccentric: *mandibles* 3-dentate, the intermediate tooth shortest: *head* transverse, broad, produced between the antennæ: *eyes* large, prominent: *ocelli* 3: *wings* ample, anterior broad at the apex, with 2 marginal areolets, the 1st small, of an elongate lozenge-shape, the 2nd large, elongate-lanceolate, and 4 submarginal ones, nearly equal, the 3rd being somewhat the smallest, and receiving 2 recurrent nervures, the 2nd and the 4th extending to the apex: *abdomen* elongate, cylindric and obtuse in the males, compressed at the apex, and with an exserted ovipositor in the females: *legs* nearly equal, slender, posterior rather longest; intermediate *tibiæ* with a single spur in the middle, posterior with 2 in addition to 2 at the apex of all. Larva elongate, with obsolete legs: feeds on the stalks of corn and buds of fruit-trees: pupa changes within the stalks.

†Sp. 22. *Populi*. *Atro-cærulea, collare luteo, abdomine luteo maculis transversalibus atris, antennis pedibusque nigris, tibiis anticis luteis*.

Te. *Populi*. Linné.—Turton (!)—Ly. *Populi*. Steph. Catal. 340. No. 3976, note.

Antennæ black; head bluish, with the mouth yellow; thorax also deep blue, with the sides (or collar) luteous; abdomen luteous, the back with transverse black spots; legs black, with the anterior tarsi luteous; wings fuscous.

Also introduced, but erroneously, by Turton, as British.



Cephus differs chiefly from Janus by having the antennæ distinctly clavate; the neuration of the wings is also discordant; the abdomen of the males more cylindric, not being dilated towards the apex, which is obtuse, and in the females that joint is considerably compressed towards the tip, and the ovipositor is exerted: the penultimate joint of the palpi is very small, and is frequently produced on one side, a character that does not appear to have been previously noticed: the species frequent flowers.

Sp. 1. Troglodyta. *Ater nitidus, abdomine punctis aliquot fasciisque duabus flavis, alis stigmatè testaceo.* (Long. corp. 6 lin.; Exp. Alar. 10 lin.)

Li. Troglodyta. *Fabricius*.—*Sy. niger.* *Harris Ex. pl. xxviii. f. 2.*—*Ce. Troglodyta.* *Steph. Catal. 341. No. 3982.*

Black, shining: mandibles yellow in the middle, the apex ferruginous; thorax with a small yellow dot on each side beneath the wings, and a larger triangular one of the same colour on each side of the metathorax; abdomen with a large triangular yellow patch on the basal segment, a minute yellow dot on each side of the margin of the 2nd, the 3rd and 4th each with a broad marginal yellow band, 5th immaculate, 6th with a very broad marginal band, the 7th with an interrupted one, both yellow; legs black; tibiæ and tarsi pale testaceous, the hinder tibiæ with the apex black; wings hyaline, iridescent, nervures ferruginous, stigma testaceous.

It varies in having the fasciæ on the abdomen more or less obscure, and in having the posterior tibiæ entirely pale testaceous.

Scarce: taken occasionally at Hertford, and in other places within the metropolitan district, about the end of June.

Sp. 2. *quinque-fasciatus.* *Ater nitidus, collaris margine abdomineque fasciis 5, tibiis tarsisque totis, flavis, alis stigmatè flavescente.* (Long. corp.  $5\frac{1}{2}$ —7 lin.; Exp. Alar.  $9\frac{3}{4}$ —11 lin.)

*Ce. 5-fasciatus.* *Steph. Catal. 341. No. 3983.*

Shining black: head with a minute angulated yellow mark between the antennæ on the clypeus, and a dot of the same on the inner orbits on the crown; thorax with the margin of the collar yellow, and a spot of the same on each side of the metathorax; abdomen with a triangular patch on the 1st segment, the 3rd, 4th, 6th, 7th, and 8th segments with a broad entire marginal band, and the 2nd and 5th with a minute dot on each side, all yellow; legs black, with the extreme apex of the femora and the tibiæ and tarsi entirely yellow; wings hyaline, yellowish, with the nervures and the stigma brighter.

Male with the front of the head luteous, with a spot on the clypeus, and a streak on each side and at the base of the mandibles black, the 2nd segment of the abdomen immaculate, and the abdomen itself linear.

Taken in the west of England, near Bristol, I believe, but apparently very rare, in the beginning of June.

Sp. 3. Satyrus. *Niger, abdomine segmento 2-do utrinque puncto, 3-tio, 5-to, et 6-to posticè fasciâ flavis.* (Long. corp. 6 lin.; Exp. Alar. 10½ lin.)

As. Satyrus. *Panzer.*—Ce. Satyrus. *Steph. Catal.* 341. No. 3984.

Black: mandibles at the base and palpi luteo-testaceous; scutellum with a minute white dot; abdomen with a triangular yellow patch at the apex of the basal segment, a dot of the same on each side of the 2nd, the 3rd, 5th, and 6th each with a narrow yellow margin; femora black; tibiæ and tarsi testaceous; wings hyaline, yellowish; nervures and stigma brighter.

Found at Darenth wood in June; rare.

Sp. 4. atripes. *Ater nitidus, abdominis segmentis 3, 4 et 5 tenuissimè flavo marginatis, pedibus nigris, tibiis tarsisque anticis testaceis.* (Long. corp. 3½ lin.; Exp. Alar. 5 lin.)

Ce. atripes. *Steph. Nomen.* 2d edit. col. 130.

Shining black: mandibles yellow at the base; palpi yellow, with the terminal joint black; thorax with a yellow dot on each side below the wings; abdomen linear, with a triangular yellow membrane at the base, the 3rd, 4th, and 5th segments narrowly edged with pale yellow, the 1st the broadest; on the extreme lateral margins of the 6th is a short yellowish streak; legs black, anterior with the tibiæ and tarsi testaceous; wings hyaline, the nervures and stigma brownish.

Rare: taken near London in June.

Sp. 5. pallipes. *Ater, nitidus, tibiis tarsisque omnibus testaceis.* (Long. corp. 3 lin.; Exp. Alar. 5¼ lin.)

Ce. pallipes. *Klug.*—*Steph. Catal.* 341. No. 3986.

Shining black: head smooth; mandibles testaceous, fuscous at the base; palpi testaceous; abdomen smooth, slightly pubescent, with a yellow triangular patch on the basal segment; femora deep black; tibiæ and tarsi testaceous, the posterior ones fuscous at the apex; wings hyaline, iridescent, with the nervures fuscous, and the stigma brownish; antennæ black, with the tip fuscous.

Also scarce: a pair was taken by me many years since at Hertford at the end of June.

Sp. 6. pygmæus. *Ater nitidus (pectore in mare), abdomine fasciis (anoque in mare) flavis, tibiis tarsisque 4 anticis testaceis.* (Long. corp. 3—3½ lin.; Exp. Alar. 5—5½ lin.)

Si. pygmæus. *Linné.*—Ce. pygmæus. *Steph. Catal.* 341. No. 3985.

Shining black: head smooth; mandibles yellow, black at the base, the extreme apex ferruginous; palpi testaceous, with the terminal joint black; eyes brownish; abdomen with a large triangular pale patch at the base, the 4th, 6th, and 7th segments with a yellow margin, the first of which is broadest, the last very narrow and sometimes wanting; femora dull black, the 4 anterior tibiæ and tarsi testaceous; wings hyaline, iridescent, with the nervures and stigma brownish.



Male with the mouth entirely yellow, the thorax beneath, and the base and anterior part of the femora, with the terminal segment of the abdomen, yellow.

Abundant, in hedges on flowers, especially of the privet, at Darenth wood and near Hertford especially; also at Dover, Ripley, in Devonshire, &c. in June, the males comparatively uncommon.

Sp. 7. *floralis*. *Ater, nitidus, abdomine fasciis anoque luteis, pectore nigro, tibiis tarsisque 4 anticis flavis.* (Long. corp. 3 lin.; Exp. Alar. 5 lin.)

Ce. *floralis*. *Klug.—Steph. Catal. 341. No. 3987.*

Shining black: head faintly punctured; mandibles yellow, with the apex fuscous; palpi fuscous, with the base yellow; ocelli and eyes brownish; abdomen black, with a triangular yellow patch at its base, the 4th and 5th segments with a broad luteous margin, the 6th with a narrow one, varied on each side, 7th with a small narrow border, interrupted on the sides, the 8th with a luteous spot on each side, and the 9th entirely yellow; legs black, the 4 anterior tibiæ and tarsi yellow, posterior tibiæ yellowish at the base; wings hyaline, iridescent; nervures and stigma fuscous.

Rare: I have a male from Darenth wood and the female from Norfolk; they were taken in June.

Sp. 8. *analis*. *Ater nitidus ano luteo, tibiis tarsisque 2-bus anticis flavis.* (Long. corp. 3 lin.; Exp. Alar. 5½ lin.)

Ce. *analis*. *Klug.—Steph. Catal. 341. No. 3988.*

Shining black: mandibles yellow, edged with black above; abdomen finely punctured, with a pale yellowish triangular patch on the basal segment, and the terminal one luteous; legs black, the 2 anterior tibiæ and tarsi testaceous; wings hyaline, the nervures fuscous, with the stigma fuscous.

Rare; found in June near London.

Sp. 9. *tabidus*. *Ater, nitidus, abdominis lateribus luteo maculatis, tibiis anticis anticè testaceis.* (Long. corp. 3½ lin.; Exp. Alar. 5¾—6 lin.)

Si. *tabidus*. *Fabricius.—Ce. tabidus. Steph. Catal. 341. No. 3989.*

Shining black: head slightly punctured; mandibles yellow, the tips brownish; palpi testaceous, with the base ferruginous; eyes and ocelli brownish, the latter very glossy; thorax with a minute yellow dot beneath the wings; abdomen slightly pubescent, and very faintly punctured, with a large distinct luteous spot on each segment at the extreme lateral margin, and the sheaths of the ovipositor also yellow; legs black, with the tibiæ and tarsi of the anterior pair testaceous in front, the extreme joint of the tarsi black; wings subhyaline, slightly fuscous, with the nervures and stigma darker.

Not very common, but greatly distributed: I have taken it at Hertford, Cambridge, and near Whittlesea Mere, in June and the beginning of July; it also occurs at Dover and near Southgate.

Sp. 10. *immaculatus*. *Niger, nitidus, immaculatus, tibiis tarsisque anterioribus testaceis*. (Long. corp.  $3\frac{1}{2}$  lin.; Exp. Alar. 5 lin.)

Ce. *immaculatus*. *Steph. Catal.* 341. No. 3991.

Shining black: mandibles yellow at the base; abdomen totally immaculate; femora black, the anterior at the tip, with all the tibiæ and the anterior tarsi testaceous, the intermediate tarsi and the posterior tibiæ at the apex fuscous, the hinder tarsi black; wings subhyaline, fuscous, with the nervures and stigma darker.

Taken, in June, near Bristol.

Sp. 11. *pusillus*. *Ater, nitidus, abdomine piceo, segmentis 5 et 6 lineâ utrinque anoque flavis, femoribus nigris, tibiis tarsisque flavo testaceis*. (Long. corp.  $2\frac{1}{2}$  lin.; Exp. Alar.  $4\frac{1}{2}$  lin.)

Ce. *pusillus*. *Steph. Catal.* 341. No. 3990.

Shining black: antennæ testaceous at the apex, especially beneath; mandibles testaceous at the tip; palpi pitchy; thorax immaculate; abdomen pitchy-black, with an elongate streak on each side of the 5th and 6th segments, and the terminal segment yellow; femora black, the anterior in front, intermediate at the apex, and all the tibiæ and tarsi testaceous-yellow; the hinder tarsi brownish above; wings hyaline, with the nervures and stigma fuscous.

Found, but very rarely, in the neighbourhood of London in June, and also at Bristol.

### GENUS XXX.—JANUS *mihi*.

*Antennæ* rather long and filiform, consisting of numerous articulations, basal joint robust, subglobose, 2nd rather smaller, globose, 3rd longer than the 4th, which is slender and elongate, 5th rather shorter, 6th and following gradually diminishing in length and thickness, terminal one obtuse: *palpi* unequal; maxillary with the penultimate joint very short, inserted eccentrically, the apical one slender and acute: *mandibles* bidentate: *head* rather small, subglobose, a little produced in front: *ocelli* 3: *collar* moderate: *wings* long and broad; anterior with 2 marginal areolets, the basal one elongate-quadrate, placed obliquely, the apical one elongate-lanceolate-acute; and 4 submarginal areolets, the 1st irregularly triangular, 2nd elongate triangular, receiving 2 recurrent nervures; the 3rd subquadrate, receiving 1 recurrent nervure; the 4th larger, extending to the apex: *abdomen* short, narrow at the base, and dilated at the tip, which is obtuse and rounded in the males, slightly compressed and acute in the females, with a short exerted ovipositor: *legs* slender; hinder pair stoutest and elongate; 4 posterior *tibiæ* with spurs in the middle.

The long filiform antennæ of the insects I have included in this genus, combined with the difference in the structure of the trophi, and the dissimilarity of the areolets of the wings, the abbreviated



subclavate abdomen, especially of the males, which is scarcely compressed in the females, appear sufficient to remove them from *Cephus*.

Sp. 1. *connectens*. PLATE xxxvii. f. 2.—*Ater nitidus, pedibus flavo-testaceis, tarsis posticis fuscis, antennis infra luteis*. (Long. corp.  $2\frac{3}{4}$  lin.; Exp. Alar. 6 lin.)

Ja. *connectens*. *Steph. Catal.* 341. No. 3992.

Shining black: antennæ luteous beneath, especially at the apex: mandibles yellow at the base, the apex pitchy; palpi pitchy; thorax with a minute yellow dot on each side beneath the base of the wings; abdomen with the membrane yellowish, the extreme tip above testaceous, and the 3 or 4 last segments beneath yellowish; femora and tibiæ all entirely testaceous-yellow; 4 anterior tarsi the same, the hinder pair fuscous; wings hyaline, with the nervures, costa, and stigma yellowish-brown.

Extremely rare, apparently: taken near Hertford in June.

Sp. 2. *femoratus*. *Ater nitidus, pedibus obscurè rufo-testaceis, tibiis posticis apice tarsisque posterioribus nigris, tibiis intermediis et posticis basi flavis*. (Long. corp.  $4\frac{1}{2}$  lin.; Exp. Alar.  $7\frac{1}{2}$  lin.)

Ce. *femoratus*. *Curtis, v. vii. pl.* 301.—*Steph. Nomen.* 2d edit. col. 130.

Shining black: tip of the mandibles testaceous; palpi pitchy; abdomen with the basal membrane pale yellow; legs dull testaceous, the hinder femora dusky at the tip, posterior tibiæ black at the apex, their base, and that of the intermediate ones, yellow; the 4 posterior tarsi and the tips of the anterior ones black; wings hyaline, iridescent, the nervures, costa, and stigma pitchy.

The hinder femora and the middle of the 4 anterior ones are sometimes black, and the nervures, costa, and stigma of the anterior wings are very dark:—probably a distinct species.

Also rare: it has been taken in Devonshire and in the New Forest in June; and the variety at Darenth wood at the same time of the year.

## FAMILY II.—XIPHYDRIIDÆ, *Leach*.

*Wings* with the marginal areolets complete: *mandibles* rather short, denticulate within: *labium* entire, or wanting: *maxillary palpi* with 4 joints, *labial* with 3 or 4: *ovipositor* inclosed between 2 serrated lamellæ, and considerably exerted: *antennæ* various. Larva cylindric, fleshy, apterous.

The insects of this family, as their name implies, are found in wood, in which they appear to perforate cylindrical holes, like those of the following; but the larvæ, &c. have not hitherto been described, I believe.

There are two genera only found in Britain, which may be thus distinguished by external characters:—

*Antennæ* fractæ, art<sup>o</sup> 3-tio valdè elongato; *tibiis* posticis in medio

spinosus: . . . . . 31. XYELA.

haud fractæ; *tibiis* omnibus in medio inermibus: . 32. XIPHYDRIA.

### GENUS XXXI.—XYELA, *Dalman*.

*Antennæ* rather long, 12-jointed, slightly elbowed beyond the 3rd joint, the basal joint robust, cylindric; 2nd short, obconic; 3rd also robust, cylindric, equal in length to the remaining joints, all of which are minute, the terminal one being least: *palpi* unequal, maxillary very long, 4-jointed, the terminal one half as long as the 3rd, flat: *mandibles* 3-dentate: *head* transverse, depressed: *ocelli* 3: *collar* short: *wings* short, broad, especially the posterior; anterior with 3 marginal areolets, the 1st small, at the base of the stigma, which is large, the other 2 placed obliquely beyond the stigma; and 3 submarginal ones, the 1st receiving 1 recurrent nervure, the 2nd 2, and the 3rd being smaller, and extending nearly to the apex; disc and posterior wings distinctly areolated: *abdomen* short, subcylindric, elongate at the apex in the males, rather acute, and furnished with a long sword-shaped ovipositor in the females: *legs* simple, placed far behind: *tibiæ* with a spur at the apex, the 4 posterior ones with a spur in the middle, and the hinder pair with 2 bristles on the outer edge.

The very singular structure of the antennæ of this genus is amply sufficient to distinguish it from Xiphydria, from which it also greatly differs in its ample wings, all of which have numerous areolets, the anterior with 3 marginal and 3 submarginal ones; the maxillary palpi are long and slender; the tibiæ armed with spurs; the ovipositor in the females very different, &c.

Sp. 1. *pusilla*. *Nigro-fusca, capite thoraceque luteo maculatis, abdominis segmentorum marginibus anoque pallide luteis, pedibus pallidis*. (Long. corp.  $1\frac{1}{2}$ — $1\frac{3}{4}$  lin.; Exp. Alar. 3—4 lin.)

Xy. *pusilla*. *Dalman*.—*Curtis*, v. i. pl. 30.—*Steph. Catal.* 341. No. 3993.

Head and thorax brown-black; clypeus and orbits luteous; the disc of the thorax with 2 luteous spots; abdomen with a yellow dot on the back of the 2 basal segments, the remainder with the margins pale, except the last, which is entirely pale luteous; legs pale, with the femora dusky; antennæ fuscous, testaceous beneath; wings hyaline, rather tawny, with the nervures and stigma darker. Ovipositor as long as the abdomen, and pale ochreous.

Found at the end of June near Hertford, in the vicinity of a fir grove; also taken in Norfolk upon umbelliferous plants in July, and in Worcestershire and in the south of Scotland.



GENUS XXXII.—XIPHYDRIA, *Latreille*.

*Antennæ* setaceous, consisting of about 17 joints, of which the basal one is longest and slightly thickened, the 2nd minute subglobose, 3rd nearly as long as the 1st, but slender, remainder gradually decreasing in length, and the terminal ones very indistinctly articulated: *palpi* short, maxillary slender, the 3 terminal joints of equal length, the last obliquely truncate and acuminate: *mandibles* bidentate: *head* large, orbiculate, petiolated, *forehead* elevated: *ocelli* 3: *thorax* broader than the head: *collar* elongate: *wings* rather long; anterior with 2 subequal marginal areolets, and 4 submarginal ones, the 1st subquadrate, 3 following gradually increasing in width, the 2nd receiving 1, and the 3rd 2, recurrent nervures: *abdomen* somewhat cylindric, flat and rounded at the apex in the males, convex above and subulated in the females, and furnished with an exserted, compressed, subserrated ovipositor: *legs* slender, compressed; anterior tibiæ shortest, all armed with 2 spurs at the apex, but without any in the middle.

Compared with the foregoing genus, these insects are gigantic, but, like all xylophagous species, they are subject to very great variations in size: without noticing other characters of distinction between them, they may be known from the *Xyelæ* by having 2 distinct marginal, and 4 complete submarginal areolets in the anterior wings: they are generally found in the vicinity of willows, flying by day.

Sp. 1. *Camelus*. *Niger, abdominis lateribus albo maculatis, pedibus testaceis, tarsis apice fuscis.* (Long. corp. ♂ 3—6 lin.; ♀ 7—9 lin.; Exp. Alar. ♂  $4\frac{1}{2}$ —8 lin.; ♀ 11—14 lin.)

Si. *Camelus*. *Linné*.—Xi. *Camelus*. *Steph. Catal.* 342. No. 3994.

Black, shining: head glabrous, forehead rough, with an oblong white streak on each side of the crown, a small one behind each eye, and a smaller one at the base of each mandible; thorax rough, with a minute white dot at the insertion of the wings on each side; abdomen with the 2 basal segments finely punctured, the 6 following glabrous and shining, each with a triangular white dot on both sides, the 1st and 3rd being smallest, terminal segment rough and immaculate; legs testaceous, with the apex of the tarsi black; wings hyaline, slightly clouded towards the apex; antennæ sometimes with the basal joints ferruginous.

Male with the white dots on the abdomen smaller and equal; but they vary in number in both sexes, and the insects also vary greatly in size.

Less abundant than the next, and I believe not found in the southern part of the kingdom: it appears to be plentiful near Newcastle-on-Tyne, as I am informed by Mr. Wailes, who first kindly supplied me with specimens; and also taken in the south of Scotland, about the end of June.

Sp. 2. Dromedarius. *Niger, abdominis medio rufo, lateribus albo punctatis, pedibus ferrugineis, tibiis posticis basi albis.* (Long. corp. ♂ 4—6 lin.; ♀ 5—9 lin.; Exp. Alar. ♂ 5—6½ lin.; ♀ 8—13 lin.)

Si. Dromedarius. *Fabricius.*—*Donovan, v. xiv. pl. 483.*—Xi. Dromedarius. *Steph. Catal. 342. No. 3995.*

Black, shining: forehead rough, with 2 oblong white streaks on the crown, 2 small ones behind the eye, and 4 beneath; thorax rough, with a white crescent on each side before the wings; abdomen with the 2 basal segments rough with punctures, immaculate, the 6 following glabrous, shining dull red, with a white dot on both sides of each segment, the terminal one largest; legs ferruginous, the tibiæ white at the base; tarsi with the basal joint pale, the remainder brownish; wings hyaline, with fuscous nervures, and a little clouded with fuscous at the tips. Ovipositor red, with black sheaths.

Male with only 1 or 2 segments of the abdomen red: both sexes vary considerably in size, and the number of white dots on the sides of the abdomen varies also.

Taken in marshy places, where willows abound, in the vicinity of London, as in Battersea and Rotherhithe fields; near Fulham; also in the New Forest and in Norfolk, from May to July: not uncommon.

### FAMILY III.—UROCERIDÆ, *Leach.*

*Wings* with distinct marginal areolets: *mandibles* short: *labium* entire, not lobate: maxillary *palpi* long and 5-jointed, or short, with 1 or 2 joints; labial short, with from 1 to 4 joints: *ovipositor* filiform, inclosed in a groove beneath the abdomen, or arising from a deep cleft beneath the 6th segment, and extending backwards considerably beyond the apex of the abdomen: *antennæ* various.

The insects of this family are also xylophagous, but they differ too much in structure to be associated with the foregoing, as may be observed by the characters above given: like those insects they differ considerably in size; the larger species of the group are very destructive, and at times commit sad havoc amongst timber trees, especially those of the fir kind, but, happily for the proprietors, they are comparatively rare in this country, occurring only in a few distinct localities, but in them they are sometimes far too numerous: they are very active and lively, and fly with rapidity, making a loud humming noise.

In Britain 2 genera only have hitherto been discriminated, but the genus *Sirex* offers such considerable variations in the structure of its trophi, &c. as may probably warrant its subdivision into more:—the 2 already distinguished may be thus known:—



<i>Alæ antica</i> areola 1 marginali :	.	.	.	.	.	33. ORYSSUS.
areolis 2-bus marginales :	.	.	.	.	.	34. SIREX.

### GENUS XXXIII.—ORYSSUS, *Latreille*.

*Antennæ* filiform, 11-jointed in the males, basal joint large, 2nd joint short, obconic; 3rd also obconic, longer; 4th and remainder nearly equal in length, the terminal one acute; 10-jointed in the female, the basal joint robust, subglobose, 2nd short, 3rd elongate, subclavate, 4th and 5th short, 6th longer than either of the others, 2 following each about as long as the 3rd, 9th rather longer and broader, obliquely truncate, 10th small, slender; *palpi* very unequal, maxillary 5-jointed, labial 3-jointed: *mandibles* rounded, not dentate: *head* large, orbicular: *ocelli* 3: *thorax* rather narrower than the head: *wings* short; anterior with 1 marginal and 2 submarginal areolets, the last imperfect: *abdomen* broad, slightly clavate, with the *ovipositor* concealed in a groove beneath: *legs* rather short: *tibiæ* furnished with a pair of spurs at the apex, anterior in the female with a deep suture: *tarsi* 5-jointed, anterior in the female 3-jointed.

The singular antennæ of these insects, united to the paucity of the number of articulations, the single marginal areolet in the anterior wings, the great length of the maxillary palpi, which are distinctly 5-jointed, the simple rounded mandibles, &c. sufficiently indicate the difference of this fine genus from the following.

†Sp. 1. *coronatus*. *Niger, abdomine rufo-ferrugineo basi nigro, alis ante apicem late fuscis puncto costali hyalino.* (Long. corp.  $5\frac{1}{2}$ —6 lin.; Exp. Alar. 8—10 lin.)

Or. *coronatus*. *Latreille*.—*Steph. Catal.* 342. No. 3996.—*Curtis, v. x. pl.* 460. Head black, slightly shining, with a white line on each side from the eyes to the insertion of the antennæ; eyes fuscous; thorax black, rough, immaculate; abdomen with the 2 basal segments the same, the remainder smooth and rusty-red, the extreme tip blackish beneath; femora black, with a spot at the apex, and the base of the tibiæ white, the apex of the latter and the whole of the anterior black, the intermediate and posterior ferruginous within; tarsi lutescent; wings hyaline, the anterior with an undefined fuscous fascia towards the apex, in which on the costa, adjoining the stigma, which is pitchy-black, is a clear spot; nervures pitchy; antennæ with the base and apex black, the intermediate joints white above.

Two examples only of this fine insect have hitherto, so far as I am aware, been taken in Britain; the first was caught in July, 1817, at Darenth wood, by Dr. Leach, while in company with me, on a collecting excursion; the other was also taken subsequently in Devonshire, by the same distinguished naturalist.

GENUS XXXIV.—SIREX, *Linné*.

*Antennæ* filiform or setaceous, as long or longer than the thorax, articulations varying from 17 to 25, generally most in the female; the 1st and 3rd joints longest, of equal length, the former robust, 2nd minute globose, 4th shorter than the 3rd, the remainder very gradually diminishing in length: *palpi* unequal, very short, maxillary ciliated and 2- or 1-jointed; labial thrice as long and more slender, very pilose, with 4, 3, or 2 joints, the terminal one robust: *mandibles* thick, 3-dentate: *head* moderate, semiglobose: *eyes* small: *ocelli* 3: *thorax* rather wider than the head, the anterior angle or collar produced: *wings* with 2 marginal and 2 submarginal areolets: *abdomen* long, cylindric, terminating in an elongate point, and in the female with an elongate *ovipositor* arising from beneath the 6th segment, and extending considerably beyond the apex of the abdominal appendage: *legs* moderate; posterior pair slender in the females, in the males with their tibiæ and tarsi much dilated. Larva soft, cylindric, with six legs, the terminal segment rounded, and plicate, armed with a short spine: pupa folliculated.

As before alluded to, the insects of this conspicuous genus differ considerably in parts (the trophi) that are usually considered as being of great moment in the determination of genera, but there appear so many preponderating external characters of similarity as not to warrant the separation of the discordant species; I shall therefore merely indicate their discrepancies from Klug. The larvæ feed on the inner substance of fir trees, boring large cylindrical holes, and committing sad havoc where they abound.

A. *Maxillary palpi* biarticulate; *labial* 4-articulate.

Sp. 1. *gigas*. *Capite nigro, maculâ pone oculos utrinque flavâ, abdomine (in fœmina) flavo, segmentis 2-do, 7-mo, 8-vo nigris, 1-mo et 9-no basi fuscescens*. (Long. corp. ♂ 1 unc. 3 lin.; ♀ ovip. incl. 9 lin.—1 unc. 5½ lin.; Exp. Alar. ♀ 16 lin.—2 unc. 2 lin.)

Si. *gigas*. *Linné*.—*Samouelle*, pl. 8. f. 3 ♀.—*Steph. Catal.* 342. No. 3997.

Head pilose black, with an obscure luteous spot below the antennæ, and a large yellow lateral oval glabrous one on each side behind the eyes: mandibles ferruginous at the base; ocelli yellow; eyes fuscous; thorax black; abdomen a little silky above, the base of the 1st segment brownish, the 2nd entirely yellow above, 7th and 8th the same, 9th yellow above and below, excepting the base of the upper surface, which is brownish, its appendage also yellow; ovipositor ferruginous; femora black, 4 anterior yellow at the tips; tibiæ and tarsi entirely yellow; wings hyaline, yellowish, with the nervures and costa ferruginous, stigma dusky-black; antennæ luteous.

Male with the abdomen luteous, the 1st and last segment and its appendage black; the hinder pair of tibiæ and tarsi fuscous, pale at the base.

Extremely variable in size.



This magnificent insect occurs in various parts of Britain, from the end of July to the middle of September, but, although greatly diffused, is nevertheless very rare: it has been frequently found in and near London, in Kent, Berks, Wilts, Norfolk, near Edinburgh, Exeter, and Gloucester.

Sp. 2. *bizonatus*. PLATE xxxvi. upper left fig.—*Capite nigro, maculâ pone oculos utrinque flavâ, abdomine nigro, segmentis 2-do et 7-mo et basi 8-vi flavis.* (Long. corp. ♀ ovip. incl. 12—16½ lin.; Exp. Alar. ♀ 18—21 lin.)

Si. *bizonatus*. Steph. Catal. 342. No. 3998.

Head black, pubescent, with a large glabrous yellow spot at each side behind the eyes, and an obscure one on the clypeus; ocelli black; thorax black, immaculate; abdomen black, with the 2nd and 7th segments entirely luteous above, with the base of the 8th and the appendage to the 9th the same, this last segment totally black; femora black, anterior pair with the extreme tip luteous; tibiæ and tarsi also luteous, the posterior tibia black at the apex; antennæ luteous; wings hyaline, with the nervures and stigma pale testaceous; ovipositor black.

I have several examples of this fine insect—perfectly agreeing with each other—that were taken in and near London in August.

†Sp. 3. *augur*. *Capite fusco, postice late flavo.* (Long. corp. 3½ lin.; Exp. Alar. 2 unc. 1 lin.)

Si. *augur*. Klug.—Donovan, v. xiii. pl. 440.—Steph. Catal. 342. No. 3999.

Head fuscous, yellow entirely behind the eyes, the latter fuscous; thorax brownish-yellow above, blackish beneath, with a large yellowish patch beneath the wings; abdomen yellow, with the 3rd, 4th, and 5th segments entirely, and the margins of the 6th and 7th, black; beneath brownish, except the last segment, which is yellow; legs yellow, posterior femora brownish at the base, the hinder tibiæ fuscous at the apex; wings yellowish, hyaline, nervures and stigma ferruginous; antennæ yellow.

Male with the basal joint of the antennæ fuscous; the abdomen tawny, with its base and apex black; the legs fuscous, with the base of the tibiæ and tarsi slightly yellowish.

Donovan gives this as a British species, but I have not yet seen an example.

Sp. 4. *Juvenus*. *Capite atro cæruleo immaculato, abdomine atro-cæruleo, aut rufo-fulvo basi (apiceque sæpissimè) atro cæruleo.* (Long. corp. ♂ 7 lin.—1 unc. 4 lin.; ♀ ovip. incl. 6 lin.—1 unc. 6 lin.; Exp. Alar. ♂ 10 lin.—1 unc. 8 lin.; ♀ 9 lin.—2 unc. 1 lin.)

Si. *Juvenus*. Linné.—Curtis, v. vi. pl. 253 ♂ and ♀.—Steph. Catal. 342. No. 4000.

Head punctate, villose, deep immaculate blue-black; mandibles black; ocelli fulvous; thorax also deep blue-black, villose and punctate; abdomen

robust, silky, finely punctured and deep blue-black above and below ; the appendage at the apex short and conical ; ovipositor also blue-black ; femora rusty-red, with a blue gloss at the base ; tibiæ testaceous ; tarsi also testaceous, with the terminal joint fuscous ; antennæ black ; wings hyaline, pale testaceous, with the limb dusky, the nervures, costa, and stigma ferruginous, the last darkest.

Male blue-black, with the margins of the 3rd segment, and the whole of the 4th, 5th, 6th, and 7th red ; the hinder tibiæ and tarsi dilated, compressed and dark blue-black ; the penultimate joint of the tarsi red.

Both sexes vary in having the femora sometimes entirely red, at others more or less clouded with blue-black ; the tibiæ are occasionally clouded with the same on the outer side ; the number of joints in the antennæ appears to be variable, and the blue colour is frequently enlivened by tints of brightish green.

Male varies with the 6 basal joints of the antennæ bright red, the abdomen rufous, with the 2 basal joints and a patch at the base of the 3rd blue-black, the appendage only to the 9th also blue-black, legs as above.

This sex also varies in having the antennæ totally black, and the abdomen, with the exception of the 2 basal segments, bright red : this has been called *Si. nigricornis* of Fabricius, which is an American insect, and from which it differs in several particulars.

This beautiful and extremely variable insect is decidedly the most common, at least in this country, of the genus ; it occurs near Birch

B. *Maxillary palpi* uniarticulate ; *labial* triarticulate.

†Sp. 5. Spectrum. *Niger, liturâ ante alas utrinque testaceâ.* (Long. corp. 1 unc. 1—2 lin. ; Exp. Alar. 1 unc. 6 lin.)

Si. Spectrum. *Linné.—Stewart (!)—Steph. Catal. 343. No. 4001, note.*

Head hirsute in front, glabrous behind, deep black, with a testaceous spot on each side behind the eyes, which are brownish ; thorax black, with the lateral margin crenulated and testaceous ; abdomen finely punctate-striate transversely, its anal appendage rather long, acute, the base attenuated ; ovipositor ferruginous ; legs pale lutescent, the femora slightly ferruginous beneath ; the terminal joint of the tarsi dusky ; wings hyaline, with the margins slightly clouded, anterior with a faint transverse fascia towards the apex ; costa pale, stigma fuscous.

Male with a triangular testaceous spot at the base of the mandibles ; femora ferruginous, with the apex fuscous ; the 4 anterior tibiæ testaceous, with the tip above fuscous ; the posterior glossy-black, with the base whitish ; tarsi with the apex dusky.

Stewart gives this as British, but I believe upon insufficient authority, arising from the circumstance of Donovan having misapplied the name to *Pimpla instigator*.



wood, on Bessell's green, beyond Darenth, at Cobham, in profusion near Shrewsbury, and at York; also occasionally in Norfolk, Suffolk, &c. from the end of July to the middle of September.

C. *Maxillary palpi* uniarticulate; *labial* biarticulate.

Sp. 6. Magus. *Atro-cærulescens, alis fusco nebulosis maculâ costali testaceâ; antennis apice (in fæminis) albis.* (Long. corp. ♀ ovip. incl. 1 unc. 4 lin.; Exp. Alar. ♀ 1 unc. 6 lin.)

Si. Magus. *Fabricius.*—*Steph. Catal.* 343. No. 4002.

Head blue-black, pubescent, occiput with a fovea, and forehead with two tubercles; thorax also pubescent and blue-black, rough; abdomen above finely punctured, silky, blue-black; the 2nd and 3rd segments with a minute whitish dot, and an elongate streak on the sides; the 4 following with a minute spot only, the 8th with a white rhombic spot, the rest immaculate; femora blue-black, tibiæ brownish-blue, with the base whitish; tarsi with the basal joint bluish-brown at the tip, the base whitish, the 3 following joints bluish-brown, the 5th whitish; claws brown; antennæ glossy-black, with the 9 terminal joints white.

Male said to have the antennæ totally black, the abdomen immaculate, and the legs entirely blue-black.

Taken, but very rarely, in the vicinity of London.

Subdivision B. of the TEREBRANTIA embraces those insects which form the genus *Ichneumon* of Linné, and may be considered as a sub-section by the name

### PUPOPHAGA, *Latreille*,

Which have, as stated in page 4, the *abdomen* united to the thorax by a distinct peduncle.

This is a very extensive subdivision, and is again further divisible into 2 distinct sections, and into several families, which I shall treat of in the order given in my Catalogue, although probably not quite natural, as the 1st of these appears to have but little affinity with the preceding, and would rather seem to connect the Cynipidæ with the Ichneumonidæ, while the last (as *Pimpla*) are evidently allied to the Uroceridæ.

The 1st section upon which I shall treat contains the following families, which may be thus cursorily distinguished; premising that the group itself may be generally recognized by the posterior wings being furnished with distinct (frequently radiating) nervures—a character scarcely found in the 2nd section, and never wanting

except in the 8th family in the present, which offers so many other peculiarities as will almost remove it to the 2nd section.

<i>Antennæ</i> 13-14-articulatæ:	.	.	.	.	.	4. EVANIIDÆ.
15-50-articulatæ,						
<i>Alis anticis</i> areolâ 1-mâ magnâ:	.	.	.	.	.	5. ICHNEUMONIDÆ.
areolis 2-bus longitudinalibus.						
<i>Palpis maxillaribus</i> 5-articulatis:	.	.	.	.	.	6. BRACONIDÆ.
6-articulatis:	.	.	.	.	.	7. ALYSIIDÆ.
4-articulatis:	.	.	.	.	.	8. APHIDIIDÆ.

#### FAMILY IV.—EVANIIDÆ, *Leach*.

*Antennæ* with 13 or 14 articulations, filiform, or very slightly attenuated: *mandibles* denticulate: maxillary *palpi* filiform or setaceous, 6-jointed; labial 4-jointed: *head* vertical: *ocelli* 3: *collar* very short: *thorax* very convex: *metathorax* shelving: *abdomen* inserted beneath the scutellum; short and clavate, or elongate and somewhat linear: posterior *tibiæ* sometimes clavate.

The insects included in this family vary much among themselves, the 2 typical genera having the abdomen remarkably small in comparison with the great bulk of the trunk: it is oval, compressed, and abruptly supported by a slender elongate peduncle, which is inserted close to the base of the scutellum, whereas, in the other genus, the abdomen is considerably elongate, and of a gradually clavate form, inserted by its smaller end beneath the scutellum; the ovipositor of the female is exserted, and the habit of the insect tends towards the *Glyptæ*, *Xylonomi*, &c. amongst the *Ichneumonidæ*, while the typical forms resemble the *Cynipidæ*.

The following genera are found in Britain:—

<i>Abdomen</i> breve, abruptè petiolato,			
<i>Alæ anticæ</i> areolis discoidalibus:	.	.	35. EVANIA.
	nullis:	.	36. BRACHYGASTER.
elongatum, gladatim clavatum:			
<i>Alæ anticæ</i> areolis submarginalibus 2:	.	.	38. FÆNUS.
	1:	.	37. PAXYLOMA.

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#### GENUS XXXV.—EVANIA, *Fabricius*.

*Antennæ* approximating, slightly attenuated towards the apex, 13-jointed, basal joint elongate, subclavate, 2nd minute, 3rd as long as the basal, 4th slightly shorter, the remainder gradually decreasing to the 12th, the terminal one as long as the 6th: *palpi* unequal; *labial* with the penultimate joint sometimes dilated: *head* transverse: *metathorax* abruptly shelving:



GENUS XXXVI.—BRACHYGASTER, *Leach*.

*Antennæ* approximating, slightly thickened towards the apex, 13-jointed, basal joint longest, a little shortest at the apex, 2nd minute, 3rd not much longer, the remainder gradually diminishing in length: *head* subglobose, transverse above: *eyes* not prominent: *thorax* glabrous: *wings* short, anterior with the discoidal areolets and apical nervures obliterated: *abdomen* 3-articulate,

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*abdomen* very short, compressed, consisting of 4 segments, arising from an elongate very distinct peduncle, which is inserted immediately below the scutellum: *ovipositor* not exerted: *wings* moderate; anterior with 2 or 3 distinct areolets on the disc, and the apical nervures conspicuous, with 1 marginal areolet: *legs* elongate: *tibiæ* not clavate, with a pair of spurs at the apex.

From *Brachygaster* these insects differ, as pointed out by Latreille, manifestly by having the anterior wings furnished with distinct areolets on the disc, and 1 large marginal one, besides having the nervures continued nearly to the apex: the antennæ are of a different form, and the proportions of the joints dissimilar, as well as those of the palpi: the *Evaniæ* seem destined to keep within bounds the true *Blattæ*, and as I believe that genus of insects not to be an aboriginal native, their parasites certainly cannot be; I therefore place the species (of both which I possess English examples) at the foot of the page, in accordance with my usual plan.

Sp. 1. *appendigaster*. *Toto atra, corpore pube canescente tenuissimè tecto*. (Long. corp.  $3\frac{1}{2}$  lin.; Exp. Alar.  $6\frac{1}{2}$ —7 lin.)

Sp. *appendigaster*. *Linné*.—*Donovan*, v. 13. pl. 329.—*Ev. appendigaster*. *Steph. Catal.* 343. No. 4003.

Entirely deep black, very delicately clothed with an ashy pile; thorax deeply punctured; abdomen glabrous and very glossy; legs and antennæ black; wings with a dark stigma.

I possess a single specimen of this insect, which was taken in London.

Sp. 2. *flavicornis*. *Nigra, tibiis 4 anticis tarsisque omnibus obscure rufis, alarum squamis geniculis posticis antennisque lætæ rufis*. (Long. corp.  $3\frac{1}{2}$  lin.; Exp. Alar.  $6\frac{1}{2}$  lin.)

*Ev. flavicornis*. *Curtis* ?—*Steph. Nomen*. 2d edit. col. 131.

Black, with an ashy pile; antennæ and wing scales light red; 4 anterior tibiæ dull red, lighter at the base; tarsi also dull red, the hinder pair somewhat pitchy, and the apex of the posterior femora and base of the tibiæ also red, the rest of the tibiæ pitchy; thorax deeply punctured; abdomen glabrous beneath; wings fuscous, with the stigma dark.

I have a pair of this species, which was taken, along with others now in the British Museum, at Bristol.

compressed, inserted by a long slender peduncle below the scutellum: *ovipositor* not exerted: *legs* moderate: *tibiæ* not clavate, with a pair of spurs at the apex.

These minute insects, at a first glance, resemble some of the Chalcidæ, from the paucity of nervures in their anterior wings, their short antennæ, and petiolated abdomen: from the true Evaniæ they may be known by the antennæ being faintly thickened towards the apex, and by having the 3rd joint scarcely longer than the 2nd, as well as the anterior wings being destitute of discoidal areolets: the indigenous species are probably parasitic upon the insects of the genus *Ectobius*, and as this last genus is rather numerous, there are probably many species, but, as yet, 2 only have been detected.

Sp. 1. minutus. *Totus niger, alis hyalinis.* (Long. corp.  $1\frac{1}{2}$  lin.; Exp. Alar. 3 lin.)

Ev. minuta. *Olivier.*—Br. minuta. *Steph. Catal.* 343. No. 4004.

Black, shining, coarsely punctured; head, trunk, and petiole with a slightly hoary pubescence; abdomen glabrous, smooth, glossy; legs black, anterior pair slightly pitchy in front.

My specimen of this insect was taken by Mr. Dale, who finds this species on Parley Heath in September.

†Sp. 2. fulvipes. *Niger, tibiis tarsisque anterioribus fulvis.* (Long. corp.  $1\frac{1}{2}$  lin.; Exp. Alar. 3 lin.)

Ev. fulvipes. *Curtis, v. vi. pl. 257.*—*Steph. Catal.* 343. No. 4005.

“Black, shining, variolous; antennæ rather thickened towards the apex; head, trunk, and petiole pubescent, the femora transverse-globose; abdomen ovate, very shining; four anterior legs with the apex of the thighs, the tibiæ and tarsi fulvous.”—*Curtis, l. c.*

Taken near Dorchester, and near Heron Court, Hants, in August.

## GENUS XXXVII.—PAXYLOMA, *De Brebisson.*

“*Antennæ* filiform, not so long as the body, 13-jointed, basal joint rather the stoutest and chalice-shaped, 2nd globose, 3rd long, the remainder decreasing in length: *palpi* minute: *head* transverse: *eyes* large: *thorax* small and globose: *abdomen* long and clavate: *ovipositor* shorter than the groove that receives it: superior (anterior) wings with a long narrow stigma placed in the marginal cell (areolet), which is of the same form; submarginal cell 1, arising at the angle of the marginal one, and extending to the posterior margin; discoidal cells 2, the superior one reaching the stigma; posterior legs rather long; *coxæ* and thighs slender; *tibiæ* rather clavate; *tarsi* thicker than the thighs, the basal joint longest, very long in the 1st and 2nd pair.”—*Curtis, l. c.*



Mr. Haliday, in the place quoted, suspects this genus is referrible to this family: as I have never seen the insect, I shall follow his opinion, as from the description it evidently differs much from the Braconidæ. Mr. Shuckard informs me it is the *Paxyloma* De Breb.

†Sp. 1. *apicalis*. *Ochraceus, antennarum apice capite thoracis dorso abdominisque apice nigris*. (Long. corp.  $1\frac{1}{2}$  lin.)

*Plancus apicalis*. *Ent. Mag. (Curtis) v. i. 188.—Vide E. M. (Haliday) v. iii. p. 22.*

“Ochreous, shining; antennæ, excepting the 2 basal joints, and head, excepting the mouth, blackish; back of thorax and apex of abdomen black, the base and middle of the latter fuscous; stigma and nervures brown; legs pale ochre; posterior pair testaceous.”—*Curtis, l. c.*

Supposed to have been taken near London.

#### GENUS XXXVIII.—FÆNUS, *Fabricius*.

*Antennæ* approximating, short, straight, filiform, 15-jointed in the males, 14-jointed in the females; basal joint short, ovate, rather stoutest; 2nd smallest, minute; 4th longer than the 3rd, 5th almost as long, the remainder gradually decreasing in length to the apical one, which is somewhat longer than the 4th: *palpi* rather unequal, filiform: *head* orbicular, attached by a distinct neck: *thorax* narrow, compressed: *wings* rather short; anterior with 1 large marginal areolet, 2 large submarginal ones, and 3 small irregular ones on the disc: *abdomen* elongate, compressed, narrow, clavate, very slender at the base: *ovipositor* exserted, long: *legs* short, posterior longest, their *tibiæ* clavate, with a single spine at the apex, the anterior with one towards the apex: *tarsi* moderate.

The long clavate abdomen of both sexes of this genus, and their clavate hinder *tibiæ*, combined with the exserted ovipositor of the females, the dissimilarity in the neuration of the wings, &c. sufficiently indicate their distinction from the 3 preceding genera. These insects frequent sandy situations, and are probably parasitic upon Pompili and other Sphægiform insects, *Stelis phæoptera*, &c.

Sp. 1. *Jaculator*. *Niger, subnitidus, abdominis segmentis 2-do, 3-tio et 4-to pallide rufis, tibiis tarsisque posticis annulo albo*. (Long. corp. ♂ 5—6 lin.; ♀ ovip. incl. 1 unc. 1 lin.; Exp. Alar.  $6\frac{1}{2}$ —7 lin.)

Si. *Jaculator*. *Linné.—Fœ. Jaculator. Steph. Catal. 343. No. 4006.*

Black, slightly glossy: head very minutely punctured; thorax coarsely reticulate-punctate; abdomen with the 2nd, 3rd, and 4th segments pale red; ovipositor about as long as the rest of the insect, reddish; legs black, the 4 anterior *tibiæ* whitish at the base, the hinder pair with a white ring near the base, and on the basal joint of the *tarsi*; wings hyaline, white.

The 4th segment of the abdomen is sometimes dusky, or fuscous above; and the male wants the white ring on the posterior tarsi.

Taken in several places within the metropolitan district, as in Battersea fields, Barnes Common, Darenth and Coombe woods, &c.; also at Rochester, near Bristol, and in Norfolk, towards the end of June.

Sp. 2. assectator. *Nigris, abdomine segmento 2-do, 3-tio, 4-toque latere rufis, pedibus piceo-nigris, tibiis basi albidis.* (Long. corp. ♂ 4—6 lin.; ♀ ovip. incl. 8—9 lin.; Exp. Alar. 6—6½ lin.)

Te. assectator. *Linné.*—Fœ. assectator. *Steph. Catal.* 343. No. 4007.—*Curtis*, v. ix. pl. 423.

Dull- or pitchy-black, with a slight silken pile: head and thorax very minutely punctured, and the latter with coarse punctures; abdomen with an indistinct reddish fascia on the 2nd, 3rd, and 4th segments, most distinct on the sides; ovipositor less than half the length of the abdomen; legs dull or pitchy-black, with a pale ring at or near the base of the tibiæ; tarsi slightly rufescent.

Less abundant than the last: found at Bessell's green, near Darenth wood, in the Isle of Wight, Devonshire, &c. about the end of June.

#### FAMILY V.—ICHNEUMONIDÆ,\* *Leach.*

*Abdomen* attached to the thorax by a part of its transverse diameter: *antennæ* filiform or setaceous, consisting of from 15 to 50 articulations, or upwards:

\* The arrival at this point of my subject allows me the opportunity of introducing some remarks upon the general nature of these Illustrations. It will be seen, upon a reference to the Introduction in my 1st vol., that I there state it to be my intention to introduce into these pages all the species that had previously been recorded as British, placing such as appeared, from my experience, to have been improperly, or accidentally, introduced at the bottom of the page; but, with regard to the group now under consideration, I must depart from that resolution, as, for some untenable reason, *all* the species contained in Gravenhorst's *Ichneumonologia Europæa* were for a period of at least 2 years given to the world as indigenous; I shall therefore merely introduce those species only which I have ascertained, with considerable labour, to be really found in this country, following Gravenhorst's arrangement, with one or two very trifling alterations; as, from the vastness of modern entomological science—my own collection now verging upon 100,000 specimens—I am not ashamed to acknowledge my ignorance of this and some other groups that have within these few years been extensively investigated by others; it



*palpi* filiform, maxillary usually 5-jointed : *mandibles* bidentate, or notched : anterior wings with the first submarginal areolet very large, the 2 discoidal ones situated longitudinally one above the other, the outer one as broad at its base as the apex of the external humeral one : *ovipositor* either concealed, or more or less exserted, often above twice the length of the insect, slender, setaceous. Larvæ elongate, fleshy, subsisting upon the fatty portions of other living larvæ—chiefly of the Lepidoptera—in which they frequently change to pupa, these last are sometimes enveloped in a tough glossy silken cocoon, or in one of an open texture.

The insects contained in this very extensive and difficult family appear destined to keep within due bounds the larvæ of other insects, especially those of the Lepidoptera, upon which they subsist

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would therefore be presumptuous in me to venture upon breaking up the labours of Gravenhorst, &c. without the probability of improving them ; but, so far as the mere ascertainment of the indigenous species allows, I conceive the object of *my* investigations will be fully answered in these pages, as I have been unremitting in my endeavours to detect as many as possible, though, from the immense extent of, and great difficulty attendant upon many parts of, the subject, I cannot expect to make other than an approximation to the truth. With regard to another matter, I must again refer to the Introduction to my 1st vol., wherein it is observed “that I have endeavoured to steer the middle course, and to give such distinctive characters as will apparently separate from its affinities any particular insect that has come under my observation,” “as minute descriptions are the province of the monographer alone, and are ill calculated for a work of this nature ;” and shall merely remark, with reference to the additional observations in the Entomological Magazine, vol. iii. p. 170, to which, or other criticisms, I have *doubtless a right* to reply—that although I never attempted to compare my labours with those of Kirby and Gyllenhal, therein referred to, it may be stated that the descriptions of the latter author occupy upon an average above a page each—viz. 2,190 species in 2,630 pages—and those of the former, with their accompanying notes, from 1 to 12 pages—210 species in 377 pages, and a volume upon the sections ;—hence the length of time alluded to by me in the postscript to my 5th volume, as required for the completion of this work upon a similar plan (exclusively of the additional expense): and although in that postscript I alluded to the fact of Mr. Shuckard’s inability to ascertain certain species of *Andrena*, &c. by means of the “*Monographia Apum Angliæ*,” a position corrected by me in my vol. vi. p. 19, it may be added, that *those insects* are of a peculiar habit, and speedily alter by age during life, and hence the same species assumes so many phases, that it becomes almost impossible, from the description of a single example of a long-excluded individual, however accurate—and the accuracy of Mr. Kirby “is beyond all praise,”—to give a definition that shall correspond with a recently disclosed one, a cause that does

during the life of the latter, which have, however, in general, sufficient vitality left to enable them to change to pupæ; though sometimes the young Ichneumons may be observed worming themselves out of their living prey: they are themselves subject to the attacks of other

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not operate in other families: how far, therefore, the calculations made in regard to my unpublished labours depend upon *similar circumstances* the candid entomologist will be best able to appreciate, especially as it is assumed that because the descriptions are *not printed, they cannot be written!!!* And with respect to the *mere assertion* that the result of an investigation of Gyllenhal's descriptions is constantly satisfactory, I presume that my innate stupidity, or *want of tact*, prevents me from profiting in that manner, as *I* have been unable to determine satisfactorily numerous species described by him, as a reference to the 2nd edition of my Nomenclature will render manifest! These critiques, combined with the simultaneous actions of the writer, aroused *my* sensibility!! I shall conclude this note by adding that every person has clearly an unquestionable right, to a certain extent, of availing himself of the *published* labours of his predecessors. I have therefore, as also stated in my Introduction and elsewhere, openly taken advantage thereof, and have as constantly referred to the authors—either through the medium of my Catalogue or of these pages—where any information may have been thus obtained; and in drawing up the descriptions either of the genera or of the species, I have (where practicable) invariably taken the best previous description, and have either endeavoured to extract its principal points, when too diffuse, or to augment them, when too scanty, so as to correspond with the insects in my cabinets; a proceeding equally adopted by those persons who affect pure originality, as may be seen by a comparison of their labours with those of their predecessors. These remarks are elicited in consequence of a recent reiteration of the charge against me for not acknowledging *particular* sources whence I may have obtained information,† as a retort for previous observations of mine, but the point is widely different, as my remarks apply solely to such writers as *obtain by artifice the unpublished notes* of others, and subsequently incorporate them with, and claim them as, their own. I complain not of the profuse employment of the localities *discovered* by me, and published in these pages, or of the extraction of any other information therefrom, whether taken from a purchased copy, or from one presented to a public library!!

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† To prevent the reader from being misled by an erroneous statement, it is necessary that I should notice a remark by Mr. Curtis, under *his* genus (559) *NASCIA*, who states “that Hübner divides the species (included under *Margaritia*) into 16 genera, to which Mr. Stephens has added another;” and upon these false data proceeds to add a lengthened tirade about the puerility of forming genera upon trifling characters. Now, upon referring to Hübner, it



parasites (Chalcididæ, &c.) thus realizing, in some measure, the statement of the poet, that—

“Great fleas and little fleas have smaller fleas to bite ’em,

“The smaller fleas have lesser fleas, so on ad infinitum.”

The British species, which amount to several hundreds, are divisible into numerous genera, but, for reasons stated in the note, I shall follow Gravenhorst, and commence by an abridgment of his tabular view of the indigenous genera, with a few slight additions.

*Abdomen* convexum aut depressum, petiolatum aut subsessile.

*Capite* transverso : *scutello* elevato : . . . . 48. TROGUS.  
plano.

*Pedibus* posticis haud simul validis et elongatis.

*Aculeo* fœminæ abscondito, aut subexserto.

*Cellulâ* 5-angulari, rarissime 3-angulari aut nullâ.

*Abdomine* cylindrico : . . . . 40. ISCHNUS.  
ovato, aut oblongo.

*Cellulâ* distinctâ :

*Areolâ* exteriori incompletâ : . . . 41. STILPNUS.

completâ : . . . 39. ICHNEUMON.

*Cellulâ* nullâ :

*Alis* longis : . . . . 43. MICROLEPTES.

brevissimis : . . . . 42. BRACHYPTERUS.

*Cellulâ* parvâ 3-angulari, aut irregulari vel nullâ.

will be found that the insects alluded to are divided by him into only 12 genera (vide vol. iv. p. 417) 10 of which I have condensed into 1, viz. Margaritha!! from *one section* of which Mr. Curtis has removed one of the species *as a genus* (Nascia) because its maxillæ are rather short!!! whereas in a previous folio (555) he there unites discordant groups, in one portion of which the maxillæ are short, and in the other “long and perfect,” exclusively of differing in other respects, as well as in outline, which he, in folios 207, &c., states to be a good character in the discrimination of Lepidopterous genera!!! I will only add, that so far from coinciding with Hübner, I have (as may be readily seen upon a reference to the 4th vol. of *Haustellata* throughout, and to the forthcoming 2nd part of my *Nomenclature*) in very numerous instances reduced *his genera* to mere subdivisions, not employing them as genera, as Mr. Curtis so disingenuously infers!!

With these observations, referring also to what I have stated in the Appendix to the 4th vol. above referred to, I close all further notice of the numerous attacks that have or may be made regarding these Illustrations, hoping, from the progress I have already made, by unwearied application, and the continued blessing of good health, to bring them to a conclusion by this day twelvemonths, without designedly abbreviating *one tittle* for the purpose of compressing them within “an inconvenient length”!

- Abdomine* petiolato nitidulo lævi : . 44. MESOLEPTUS.  
subsessili :  
*Facie* planâ, *tarsis* posticis gracilibus : 45. TRYPHON.  
crassiusculis : 47. SCOLOBATES.  
protuberante : . . . 46. EXOCHUS.
- Aculeo* fœminæ exserto.  
Apteri : . . . . 56. PEZOMACHUS.  
Alati :  
*Abdomine* petiolato.  
*Cellulâ* majore rhombeâ : . . 59. MESOCHORUS.  
minore aut nullâ.  
incompleta 5-angulari : 54. HEMITELES.  
completâ aut nullâ.  
nullâ aut 3-angulari,  
*Scutello* apice obtuso : 58. ISCHNOCEROS.  
spinoso : 55. AGRIOTYPUS.  
minutâ 4-atâ . . . 53. MESOSTENUS.  
5-angulari :  
*Pedibus* et *antennis* subcrassiusculis : . 52. PHYGADEUON.  
gracilibus.  
*Metathorace* acute-spinoso : . 50. HOPLISMENUS.  
mutico (aculeo longo) . 51. CRYPTUS.
- Abdomine* subsessili ;  
*Areolæ* interioris nervo infero recto : . 60. PLECTISCUS.  
angulato : 57. PHYTODIËTUS.
- Pedibus* posticis validis, elongatis : . . . 88. ACÆNITES.
- Abdomen* compressum, aut subcompressum.  
*Abdomine* sessili, aut subsessili :  
*Cellulâ* distinctâ,  
parvâ 3-angulari : . . . 77. COLEOCENTRUS.  
majore, rhombeâ :  
*Abdomine* sessili : . . . 75. BANCHUS.  
subpetiolato (*aculeo* brevi) : . . 76. EXETASTES.  
*Cellulâ* nullâ : *pedibus* posticis crassis : . . 78. AROTES.
- Abdomine* petiolato.  
*Femoribus* posticis crassis : . . . 84. PACHYMERUS.  
simplicibus :  
*Tarsis* posticis crassis : . . . 81. ANOMALON.  
omnibus gracilioribus :  
*Areolâ* radialis, permagnâ, 3-angulari : . . 86. PORIZON.  
*Abdominis* segmentis intermediis transversis : 67. PIMPLA.  
elongatis : 68. EPHIALTES.
- Cellulâ* nullâ.  
*Abdominis* segmentis transversim impressis.  
*Pedibus* crassiusculis : . . . 65. SCHIZOPYGA.  
mediocribus.  
*Abdomine* ♀-æ apice subtus, fisso : . 64. POLYSPHINCTA.  
integrò : . 66. CLISTOPYGA.



- Abdominis* segmentis intermediis oblique bi-lineatis : . . . 61. GLYPTA.
- Thorace* transversim ruguloso : . . . 69. RHYSSA.
- Abdomine* convexo, opaco, scabro : . . . 70. TRACHYDERMA.  
depresso, segmento 1-mo æquilato plano.
- Antennis* medio incrassatis : . . . 74. EUCEROS.  
simplicibus.
- Pedibus* crassiusculis : . . . 73. ORTHOCENTRUS.  
subgracilibus : . . . 72. BASSUS.
- Capite* globoso, aut subgloboso.
- Cellulâ* triangulari : . . . 49. ALOMYA.  
nullâ aut 5-angulari.
- Femoribus* simplicibus.
- Cellulâ* pentagonâ : . . . 92. ECHTHRUS.  
nullâ, facie 4-atâ : . . . 89. XYLOMUS.  
versus os angustata : 90. XORIDES.
- posticis crassis, dentatis : . . . 91. ODONTOMERUS.
- Abdomen* convexum, aut depressum, sessile.
- Abdomine* convexo, nitido:
- Scutello* transverso, 4-angulari : . . . 71. PELTASTES.  
3-angulari, aut orbiculari.
- Thorace* lævi, *abdominis* segmentis lævibus :
- Antennis* crenulatis : . . . 63. LAMPNOTA.  
haud crenulatis : . . . 62. STILBONOTA.
- Thorace* lævi, *abdominis* segmentis incisus aut tuberculatis.
- Cellulâ* distinctâ,  
angustâ, sublanceolatâ.
- Areolâ* interiore nervo uno recurrente.
- Abdomine* subcompresso.
- Cellulâ* 3-angulari aut nullâ : . . . 79. CAMPOPLEX.  
5-angulari : . . . 87. ATRACTODES.  
perfectè compresso.
- Cellulâ* 3-angulari (*abd.* segmento 1-mo conico) 80. PANISCUS.  
nullâ : . . . 85. CREMASTUS.
- Areolâ* interiore nervis 2-bus recurrentibus.
- Thorace* lævi :
- Areolâ* submarginali 1-mâ simplice : . . . 82. OPHION.  
maculatâ : . . . 83. ENICOSPILUS.

GENUS XXXIX.—ICHNEUMON, *Auctorum*.

*Antennæ* moderate, more slender and generally more porrected in the males than in the females, in which sex they are frequently involuted at the apex, and sometimes faintly dilated in the middle: *head* transverse, rather narrower than the thorax: *eyes* prominent: *thorax* rather gibbous: *scutellum* flat, triangular, with the apex obtuse or truncate, or somewhat quadrate: *abdomen* oblong or subovate, with its basal segment more or less gibbose,

rough and opaque, supported by a rather long, linear peduncle, having an obtuse angle in its middle: apex of the abdomen rather acute: *ovipositor* concealed, or merely exposed at the apex: *wings* moderate, the cellule\* for the most part 5-angular, rarely 3-angular, or pyramidal, or somewhat 4-angular: *legs* moderate.

Of this fine genus, which embraces many of the more conspicuous insects of the family, above 200 species appear to occur in Britain: the principal characters of distinction, as pointed out by Gravenhorst, consist in the abdomen being oblong or subovate, with its first segment somewhat globulous and rough, the peduncle long, linear, and bent; the cellule (or second submarginal areolet) tending to 5-angular; the antennæ and legs of moderate length; and the ovipositor hidden, or but very slightly exposed.

§ I. *Scutellum* and *abdomen* entirely black, or dark.

Sp. 1. *Monticola*. *Niger, metathorace subspinoso, abdomine atro-cæruleo, antennis albo annulatis.* (Long. corp. 8—9 lin.; Exp. Alar. 12—13 lin.)

Tr. *Monticola*. *Gravenhorst, i. 108.—Steph. Nomen. 2d. edit. col. 131.*

Black: antennæ with the 10th to 18th joints white; metathorax shagreened with two acuminate tubercles; abdomen deep blue, with the 1st segment deeply channelled, the 2nd punctured and somewhat opaque, the rest shining: anterior legs with the tibiæ and tarsi straw-coloured in front; wings hyaline, slightly stained, stigma ferruginous; scales and costa black; cellule 5-angular.

This fine insect appears to be very rare; the only examples I have seen were captured in South Wales, in July.

Sp. 2. *comitator*. *Niger, orbitis oculorum internis pallidis, antennarum annulo albo.* (Long. corp. 5—7 lin.; Exp. Alar. 9—10½ lin.)

Ic. *comitator*. *Linné.—Steph. Catal. 346. No. 4322.*

Black: inner orbits of the eyes above more or less whitish, or ferruginous, and sometimes a minute dot on the occipital edge; antennæ half the length of the abdomen, the tip curved inwards, the 9th to 15th articulations white above and on the sides, the following rusty or fuscous beneath; abdomen oblong-ovate, black or bluish, the 2nd segment sometimes of a dusky-black, with the extreme margins chestnut; anterior legs with the apex of the femora, and their under side, and that of the tibiæ dull-yellowish, the last sometimes fuscous; middle femora at the apex beneath, and the tibiæ beneath, rusty; posterior for the most part black, the femora beneath and

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\* The small areolet on the disc of the anterior wings, or the central submarginal one, when 3 are present, represented in plate xxxix., beneath the figures.



base of the tibiæ sometimes a little rusty; 4 anterior tarsi ferruginous beneath, posterior fuscous; wings hyaline, smoky, scales and stigma red, brown, or black, costa fuscous.

The number of pale joints of the antennæ varies a little.

Larva feeds on the larvæ of Bombycidæ and of *Abraxas grossulariata*, &c.

Not uncommon, within the metropolitan district, in gardens, woods, &c. in June and July: also in Scotland.

Sp. 3. *alboguttatus*. *Niger, puncto marginali segmento 3-tii et 4-ti, annuloque antennarum albidis.* (Long. corp.  $5\frac{1}{2}$  lin.; Exp. Alar. 9—10 lin.)

Ic. *alboguttatus*. *Gravenhorst.—Steph. Catal. 346. No. 4323.*

Black: frontal orbits of the eyes white; antennæ with the 10th to 14th joints white above and on the sides; thorax with a white dot beneath the wings; abdomen shining blue-black, with the extreme edges of 2nd to 4th segments rusty, the 3rd and 4th with a minute glaucescent marginal spot; the lower edge of the anterior tibiæ and a dot at the tip of the femora whitish, the middle femora the same; wings hyaline, slightly smoky, with the stigma, costa, and scales fuscous, the cellule somewhat triangular.

Apparently very rare: taken in the New Forest in June.

Sp. 4. *nigritarius*. *Niger, tibiis anticis subtus dilutè rufis, antennis albo annulatis.* (Long. corp.  $4\frac{1}{2}$ — $6\frac{1}{2}$  lin.; Exp. Alar. 10—11 lin.)

Ic. *nigritarius*. *Gravenhorst.—Steph. Catal. 346. No. 4324.*

Black: antennæ porrect, rather shorter than the body; all from the 13th to 18th joints, or the greater portion only, more or less white; abdomen with the 2nd to 6th segments of equal width, the 2nd to 4th sometimes with the extreme edge castaneous; legs moderate, anterior with the femora beneath entirely, or the tip only, reddish, or yellowish, tibiæ the same, fuscous above; middle femora with the apex and tibiæ entirely or on the inner side the same, and the posterior ones towards the base reddish; wings hyaline, smoky, the stigma black, pitchy, or red; costa fuscous; cellule 5- or somewhat 3-angular.

Larva subsists on that of *Plusiæ Gamma*, *Festucæ*, and other *Noctuidæ*.

Not uncommon in woods and hedges, upon umbelliferous flowers within the metropolitan district, in June and July.

Sp. 5. *tenuicornis*. *Niger, antennarum annulo et parte orbitalium internarum oculorum albis, femoribus anticis rufo-maculatis, tibiis anticis subtus flavis, cellula 3-angulari.* (Long. corp.  $4\frac{1}{2}$  lin.; Exp. Alar. 8 lin.)

Ic. *tenuicornis*. *Gravenhorst, i. 115.—Steph. Nomen. 2d edit. col. 131.*

Black: head with a white dot on the sides near the clypeus, and another on the orbits above, the inner orbit more or less distinctly whitish; antennæ porrect, nearly as long as the body, slender, the 13th to 16th joints white; abdomen with the 1st segment aciculate and punctured, its peduncle rather short, 2nd segment more or less punctured, with the margin shining, the

remainder more glossy ; legs with the anterior femora beneath rufous, or with the extreme tip chestnut, tibiæ with the apex red, the inner edge yellowish ; middle femora reddish beneath, tibiæ with the inner margin on the apex externally yellow ; wings hyaline, sometimes smoky, with the stigma, costa, and scales fuscous, the cellule 3-angular, with nearly equal sides.

Rare ; taken in Norfolk.

Sp. 6. nigrocyaneus. *Nigro-cyaneus, annulo antennarum albo, cellula 3-angulari* (Long. corp.  $5\frac{1}{2}$  lin. ; Exp. Alar. 8 lin.)

Ic. nigrocyaneus. *Gravenhorst, i. 117.—Steph. Nomen. 2d edit. col. 131.*

Blue-black : mouth fuscous ; antennæ with the 11th to the 15th joints white above and on the sides ; abdomen bluish, shining ; anterior legs with the inner side of the femora and of the tibiæ pale yellowish ; wings smoky-hyaline, with the stigma, costa, and scales black, the cellule 3-angular.

Larva feeds on that of *Plusia Festucæ*.

My specimen of this beautiful species was taken in Plaistow Marshes, in the larva of *Plusia Festucæ*.

Sp. 7. pallifrons. *Niger, punctis ad alarum radicem, tibiisque latere externo albis ; mas facie albâ ; fœmina annulo antennarum albo.* (Long. corp. 4—6 lin. ; Exp. Alar.  $7\frac{1}{2}$ — $8\frac{1}{2}$  lin.)

Ic. pallifrons. *Gravenhorst, i. 117.—Steph. Nomen. 2d edit. col. 131.*

Black : an interrupted faint line round the orbits and palpi white ; labrum rufescent ; antennæ half as long as the body, curved inwards at the tip, with the 9th to the 14th articulations white above and on the sides ; thorax with a spot before, and another fainter one, beneath the wings, white ; apex of anterior femora ferruginous, their tibiæ within whitish, with the apex ferruginous, and a white dot near the base without ; 4 posterior with a white ring near the base, broadest on the hinder pair ; tarsi fuscous ; wings somewhat smoky-hyaline, with the stigma pitchy or ferruginous, the costa and scales fuscous ; cellule, generally, 5-angular.

Male with the face, clypeus, palpi, and mostly a portion of the outer orbits white ; antennæ as long as the body, fuscous, with the basal joint beneath whitish, the remainder more or less ferruginous ; legs nearly as in the female, but more ferruginous within.

Taken, but not very commonly, in the vicinity of London and in Shropshire.

Sp. 8. fasciatus. *Niger, tibiis tarsisque, nec non orbitis oculorum internis et puncto ad alarum radicem albis.* (Long. corp.  $7\frac{1}{4}$  lin. ; Exp. Alar.  $11\frac{1}{2}$  lin.)

Ic. fasciatus. *Gmelin.—Steph. Nomen. 2d edit. col. 131.*

Black : palpi, spot on the mandibles, inner orbits, and a dot on the occipital orbits, white ; antennæ with the under side of the basal joint more or less white ; thorax with a white dot above and beneath the wings ; abdomen



punctured, the 1st and 2nd segments longitudinally aciculated; anterior femora beneath and middle of the tip pale yellow; 4 anterior tibiæ whitish, with the outer edge towards the apex black, posterior pair white, black at the tip; tarsi white, 4 anterior with the tips of the joints reddish or brownish, posterior whitish, with the basal joint black at the tip, the other joints more or less black; wings rather smoky-hyaline, with the stigma fuscous; cellule somewhat 5-angular.

Posterior tibiæ sometimes dusky.

Very rare: found in July in the New Forest.

Sp. 9. *lineator*. *Niger, orbitis oculorum internis et lineolis duabus ante scutellum albis; fœmina annulo albo antennarum.* (Long. corp.  $5\frac{1}{4}$ — $7\frac{1}{2}$  lin.; Exp. Alar.  $9\frac{1}{2}$ —11 lin.)

Ic. *lineator*. *Fabricius.—Steph. Catal. 346. No. 4325.—Ic. nigrator. Fab.—Steph. Catal. No. 4326, var. ♀.—Ic. narrator. Fab.—Steph. Catal. 4327, var. ♂.*

Black: palpi pale, or dusky; mandibles sometimes with a reddish or yellowish spot; inner orbits of the eyes, and a dot on the occipital orbits, white; antennæ about half the length of the abdomen, incurved at the tip, with the 10th to 16th joints, in part, or all, white above and on the sides; thorax with a dot or streak before the wings (on the collar), and one beneath, sometimes wanting, as well as a dot or streak on each side of the base of the scutellum white; abdomen punctured, somewhat opaque, more glossy towards the apex, frequently bluish or violaceous, with the extreme edge of the 2nd to 5th segments at times ferruginous; 4 anterior femora beneath at the apex, and the tibiæ within red, or ferruginous; posterior femora sometimes chestnut beneath, and their tibiæ red towards the base; wings hyaline, with the stigma, scales, and costa black, or ferruginous.

Male, with the inner orbits of the eyes very broadly white, and the outer ones narrowly so; antennæ porrect, black; legs with the femora and tibiæ beneath inclining to pale yellow instead of red; but both sexes vary a little in these respects, as well as in wanting the 2 streaks at the base of the scutellum, or white orbits.

Abundant within the metropolitan district, the larvæ subsisting upon those of the Bombycidæ: found towards the end of June and in July.

Sp. 10. *nigerrimus*. *Ater nitidus, tibiis anticis internè albis.* (Long. corp. 6 lin.; Exp. Alar.  $9\frac{1}{2}$  lin.)

Ic. *nigerrimus*. *Steph. Nomen. 2d edit. Appendix.*

Deep glossy black: head and thorax immaculate; abdomen rich blue-black, opaque at the base, the terminal segments rather shining; legs slender, anterior tibiæ white within, and the extreme base of the 2nd pair whitish; antennæ rather slender, black; wings smoky-hyaline, with the stigma, costa, and scales black; cellule nearly triangular.

Rare: taken in Shropshire by the Rev. F. W. Hope, to whom I

am particularly indebted, not only for his liberality throughout, but especially as regards the Ichneumonidæ, by the presentation of numerous species, and the loan of the original specimens received by him from Gravenhorst.

Sp. 11. *castigator*. *Niger, femoribus tibiisque rufis, stigmatibus alarum vinaceo, aut nigro.* (Long. corp. 4—7½ lin.; Exp. Alar. 9—10 lin.)

Ic. *castigator*. *Fabricius.—Steph. Catal. 347. No. 4359.*

Black: antennæ of the male porrect, of the female incurved at the apex and rather shorter, rarely entirely black or totally red, with only the 4 basal ones red below, for the most part the 3rd to 15th joints are red, the rest fuscous; metathorax with 2 spines; abdomen of the male nearly twice as long as the thorax, and narrow, slightly shining, with the 2nd to 5th segments of equal width; of the female rather longer than the thorax, ovate, very slightly compressed towards the apex, the 2nd segment with a fine chestnut edge; legs dull red, with the coxæ and trochanters, and the apex of the hinder tibiæ and the hinder tarsi black; wings yellowish-hyaline, rarely smoky, with the stigma luteous, or ferruginous, in rare instances black, costa and scales fuscous or black.

Sometimes the inner orbits of the eyes are reddish or whitish, or there is a white dot only on the occiput: the mandibles are occasionally red in the middle; and the wings fuscous.

Larvæ feed on those of *Vanessæ Atalanta*, *Io*, *Cynthia Cardui*, &c.

Not uncommon within the metropolitan district, towards the end of June and beginning of July; found also in Shropshire and South Wales.

Sp. 12. *compunctus*. *Niger, orbitis oculorum internis late albis, stigmatibus atro, femoribus tibiisque rufis, antennis subtus ferrugineis.* (Long. corp. 7½ lin.; Exp. Alar. 12 lin.)

Ic. *compunctus*. *Marsh MSS.—Steph. Catal. 346. No. 4334.—Ic. calceatorius? Steph. Catal. 347. No. 4354.*

Black: inner orbits of the eyes broadly white; scutellum gibbous, nearly black; abdomen opaque, punctured, with the apex rather shining, and the extreme edge of some of the segments reddish, legs bright red, coxæ and 4 anterior trochanters black, also the apex of the posterior tibiæ, and the hinder tarsi; posterior trochanters black at the base and at the apex; antennæ beneath ferruginous; wings hyaline, with the costa and stigma deep black, scales pitchy; cellule somewhat 3-angular.

Scarce: found within the metropolitan district.

Sp. 13. *rufipes*. *Niger, femoribus tibiisque rufis, antennis rufis, basi apiceque nigris: fœmina antennarum annulo albo.* (Long. corp. 5—6½ lin.; Exp. Alar. 8—10½ lin.)

Ic. *rufipes*. *Steph. Nomen, 2d edit. Appendix.*



Black: mandibles with a reddish spot; thorax with a reddish dot before the wings; metathorax unarmed; abdomen slender in the male, very glossy, and smooth, impunctate; opaque and punctured on the basal segments in the female, glossy and slightly compressed at the apex, the 2nd and 3rd segments sometimes faintly edged with chestnut; legs bright red, with the coxæ and trochanters black; hinder tibiæ at the tip, and their tarsi and the extreme apex of the 4 anterior tarsi black; antennæ with the basal joint black, 16 or 18 following bright red, remainder black; in the female the basal joint is black, the 6 or 7 following red, then 5 or 6 white, and the remainder black; wings hyaline, with the costa and stigma reddish-brown; scales black.

The intermediate basal joints of the antennæ are sometimes brownish-red.

Not very uncommon within the metropolitan district, occurring in July at Coombe wood and Hertford, and in Salop.

Sp. 14. *bilineatus*. *Niger, abdomine nigro-cærulescente, femoribus tibiisque rufis; fœmina antennis albo-annulatis*. (Long. corp. 4—6½ lin.; Exp. Alar. 7—9 lin.)

Ic. *bilineatus*. *Gravenhorst.—Steph. Catal.* 346. No. 4329.

Black: inner orbits of the eyes more or less distinctly white, and in the females the outer ones slightly so; antennæ with the 9th to 15th joints more or less white above and on the sides; thorax with a white dot under the wings, sometimes obsolete; abdomen bluish-black, finely punctured, with the 2nd and 3rd segments roughly aciculated; legs red, coxæ and trochanters black, tarsi of the posterior and apex of the tibiæ dusky or black; wings smoky-hyaline, with the stigma, costa, and scales fuscous or black.

Male with the centre of the mandibles red; the scutellum with 2 pale obscure white dots on the scutellum; the antennæ porrect and black.

Not very common: found near London and in Shropshire, in June.

Sp. 15. *Æthiops*. *Niger, femoribus rufis, antennarum annulo albo*. (Long. corp. 4½ lin.; Exp. Alar. 7 lin.)

Ic. *Æthiops*. *Gravenhorst*, i. 130.—*Steph. Nomen*. 2d edit. col. 131.

Black: antennæ shorter than the body, porrect, curved at the apex, the 12th to 17th joints white on the sides and above; abdomen rather longer than the head and thorax united, and a little narrower, with the 2nd to 5th segments of equal width; legs red, coxæ and trochanters with the hinder tarsi, and frequently the tibiæ at the apex and the extreme tips of the femora fuscous; wings hyaline, with the scales, costa, and stigma fuscous or black, or the last sometimes ferruginous; cellule 5-angular, or somewhat triangular.

Rare: taken near London, and in Norfolk, in June.

Sp. 16. *opticus*. *Niger, orbitis oculorum, articulo 1-mo antennarum, punctis ad*

*alarum radicem albis, pedibus anterioribus subtus ferrugineis.* (Long. corp.  $5\frac{1}{2}$  lin.; Exp. Alar. 10 lin.)

Ic. opticus. *Gravenhorst*, i. 131.—*Steph. Nomen. 2d edit. col. 131.*

Black: palpi sometimes pale, the internal and part of the external orbits white; antennæ with the basal joints whitish beneath, the remainder sometimes ferruginous; thorax with a minute white dot beneath the wings, and sometimes another below; 4 anterior femora ferruginous beneath, tibiæ the same, or yellowish, with the outer edge fuscous; anterior tarsi ferruginous, fuscous above, posterior fuscous; wings smoky-hyaline, with the stigma, costa, and scales fuscous, or black; cellule somewhat triangular, or nearly 5-angular.

Found, near London, in July, but uncommonly.

Sp. 17. albimanus. *Niger, facie, ore, articulo 1-mo antennarum, orbitisque externis, albis, pedum anteriorum tibiis et latere infero femorum et coxarum albis, abdomine nitido subsericante.* (Long. corp. 4 lin.; Exp. Alar. 8 lin.)

Ic. albimanus. *Gravenhorst*, i. 132.—*Steph. Nomen. 2d edit. col. 131.*

Black: face, mouth, and a faint streak on the outer orbits white; antennæ filiform, porrect, shorter than the body, with the 1st joint white beneath; thorax with a small streak beneath the wings and another before them white; abdomen with the 2nd to 6th segments nearly of equal breadth, shining, smooth, with a grisescent silky pile; anterior legs with the coxæ, trochanters, and femora black, white beneath, tibiæ and tarsi dull white, the middle ones fuscous above, posterior black, with the 3 last joints of the tarsi red; wings hyaline, the costa and stigma black, scales black, testaceous at the apex, cellule 5-angular.

Also found near London, in June and July, not common, and in Shropshire.

Sp. 18. corruscator. *Niger, orbitis oculorum internis tibiisque antericribus flavis, abdomine nitido subsericante.* (Long. corp.  $5-5\frac{1}{2}$  lin.; Exp. Alar. 10—11 lin.)

Ic. corruscator. *Linné.—Steph. Catal. 345. No. 4312.*

Black: palpi and mandibles in the middle yellowish or red; clypeus sometimes yellow, inner orbits of the eyes and a part of the outer ones yellow; antennæ porrect, generally rusty-brown beneath, with the basal joint black; abdomen long and narrow, with the 1st segment small, smooth, shining, the peduncle slender; the 2nd to the 5th of equal width, the 2nd and sometimes the 3rd with the extreme edge reddish; 4 anterior femora beneath, either entirely, or at the apex only red; anterior tibiæ yellow, with the outer margin brown or brownish, posterior sometimes pitchy-brown towards the base.

Abundant near London, in June and July.

Sp. 19. maculifrons. *Niger, facie et orbitis oculorum externis pro parte pallide flavis, fronte maculâ nigrâ; femoribus tibiisque anterioribus rufis.* (Long. corp.  $4\frac{1}{2}-5\frac{1}{2}$  lin.; Exp. Alar. 8—10 lin.)

Ic. maculifrons. *Steph. Nomen. 2d edit. Appendix.*



Black: face and a portion of the outer orbits of the eyes pale yellowish; front with a large black patch; palpi whitish-yellow; abdomen rather slender, somewhat silky, opaque and punctured at the base, shining and impunctate at the apex; anterior legs and tarsi light red, with the coxæ and trochanters, and the posterior legs and tarsi entirely black; antennæ with the basal joint whitish, or pale yellow beneath; wings hyaline, sometimes slightly stained; scales and costa blackish; stigma pale reddish-brown.

In some examples the face is almost entirely black, and the basal joint of the antennæ immaculate.

Larva feeds on that of *Biston prodromarius*.

Not common: found near London in June, and in Salop.

Sp. 20. *tristis*. *Niger, femoribus omnibus et tibiis anterioribus rufis, stigmatе nigro, cellula 3-angulari*. (Long. corp. 5—6 lin.; Exp. Alar. 10—11½ lin.)

Ic. *tristis*. *Gravenhorst*, i. 136.—*Steph. Nomen*. 2d edit. col. 131.

Black: antennæ about half the length of the body, with the 3rd to 14th joints ferruginous beneath; abdomen rather longer and narrower than the head and thorax, the 1st segment punctured, a little coarctate towards the base, and rather broader than the peduncle, which is stoutish; legs moderate, red, coxæ and trochanters black, posterior tibiæ fuscous or black, with the extreme base red; hinder tarsi black; wings hyaline, with the stigma, costa, and scales black; cellule 3-angular.

Somewhat rare: taken in June near London.

Sp. 21. *rubellus*. *Niger, femoribus tibiisque rufis, stigmatе piceo, segmenti 2-dі margine summo castaneo; foemina antennis rufis, annulo albo obsoleto*. (Long. corp. 2½—3½ lin.; Exp. Alar. 6½ lin.)

Ic. *rubellus*. *Gmelin*.—*Steph. Nomen*. 2d edit. col. 131.

Black: antennæ rather slender, in the females red, with the basal joint fuscous, 10th to 12th above whitish; palpi red; abdomen silky, finely punctured, the extreme margins of the 2nd, and frequently of the 3rd segments chestnut; legs red, coxæ and trochanters black, anterior beneath red in the female, posterior generally with the extreme tip of the femora and of the tibiæ black; tarsi black, with the 1st and 2nd joints red; wings smoky-hyaline, the stigma and costa fuscous or pitchy; in the female somewhat luteous; scales yellow or gilvous, sometimes brownish at the base, but rarely entirely brown.

Not common: taken within the metropolitan district in June.

Sp. 22. *rufifrons*. *Niger, facie rufescente, tibiis femoribusque anterioribus gilvis, antennis albo-annulatis*. (Long. corp. 3¼ lin.; Exp. Alar. 7 lin.)

Ic. *rufifrons*. *Gravenhorst*, i. 139.—*Steph. Nomen*. 2d edit. col. 131.

Black: orbits, face (which is gibbous), labrum and mandibles chestnut; palpi fuscous; thorax with a short line beneath the scutellum, a dot beneath the wings, and the upper margins of the collar, of a faint bay-colour; abdomen ovate, black-brown, the 2nd segment with 2 very obsolete dots at the base, and the extreme edge chestnut, the 6th and 7th with the extreme margin

whitish, the basal one smooth and rather narrowed towards the base; ovipositor black, slightly exerted; legs rather thickened; anterior ochreous, rusty-brown above, the coxæ and trochanters black; posterior pair rusty-brown, with the extreme tips of the trochanters and of the femora, as well as the base of the tibiæ and the spines at the apex rusty; antennæ filiform, with the tip incurved, basal joint chestnut beneath, 2nd to 8th black, 9th to 13th white, the rest black; wings hyaline, with the costa and stigma black; scales ferruginous; cellule somewhat triangular.

This is most probably a *Phygadeuon*.

Rare: found near London in July.

Sp. 23. *clericus*. *Niger, facie et punctis ad radicem alarum albis, femoribus tibiisque rufis, posticis apice nigris.* (Long. corp.  $5\frac{1}{2}$  lin.; Exp. Alar. 10 lin.)

Ic. *clericus*. *Gravenhorst*, i. 140.—*Steph. Nomen*. 2d edit. col. 131.

Black: mouth and face white; labrum and tip of the mandibles ferruginous, with a minute black dot impressed on the sides of the clypeus; thorax with 2 very minute white dots on each side, one before, the other beneath, the wings; legs red, coxæ and trochanters black, posterior with the apex of the femora and of the tibiæ, and the tarsi black; wings hyaline, somewhat smoky; stigma, costa, and scales black; cellule somewhat triangular.

Rare: taken near London in July.

Sp. 24. *canaliculatus*. *Niger, facie flavâ, femoribus tibiisque rufis, vertice subquadrato.* (Long. corp. 5 lin.; Exp. Alar. 7 lin.)

Ic. *canaliculatus*. *Gravenhorst*, i. 141.—*Steph. Nomen*. 2d edit. col. 131.

Black: head with the crown subquadrate and somewhat transverse, not narrowed towards the neck; face, mouth, and spot on the cheeks white; mandibles rusty at the tip; palpi yellowish; abdomen with the 1st segment a little dilated towards the apex, rough, opaque, with 2 elevated lines, the 2nd with the base rough, with 2 elevated longitudinal parallel lines, the space between somewhat broadly channelled, the apex and the remaining segments smooth and rather shining; legs red, anterior with the coxæ black above, beneath red, with a yellow spot; trochanters black, beneath straw-colour, middle coxæ black, trochanters as in the anterior, posterior with the coxæ black, the trochanters black, with the tip red; tibiæ dusky, beneath and towards the base bay; tarsi dusky; antennæ porrect, the basal joint white beneath; wings hyaline, costa and stigma fuscous, scales white; cellule somewhat triangular.

Also rare, and found in the neighbourhood of London, in June.

Sp. 25. *stimulator*. *Niger, femoribus tibiisque rufis; fœmina coxis posticis calcaratis, antennis subannulatis; mas coxis muticis, anticis oreque flavis.* (Long. corp.  $2\frac{1}{2}$ — $4\frac{1}{4}$  lin.; Exp. Alar. 5— $6\frac{1}{2}$  lin.)

Ic. *stimulator*. *Gravenhorst*, i. 143.—*Steph. Nomen*. 2d edit. col. 131.

Black: palpi and mandibles red; antennæ incurved at the apex, red and fer-



rusty, or black, with the basal joint black, the 2nd to 10th generally dusky at the base, 11th to 13th whitish; thorax, usually, with a minute white dot before the wings; abdomen with the 2nd to 4th segments of equal width, the 1st smoothish, 4 following with the extreme edge reddish; ovipositor slightly exerted; legs stoutish, red, coxæ at the base above, or entirely, black, the posterior armed with a more or less elongate acute tooth, the hinder tarsi and extreme tip of the tibiæ dusky; wings with the stigma and costa brown, scales yellowish; cellule 5-angular.

The male has the mouth and dot before the wings yellow; antennæ porrect, not annulated; the legs red, with the anterior coxæ yellow, the middle ochreous or black, with a red spot, the posterior black, the 4 anterior trochanters yellow, posterior red, the apex of the hinder femora and of the tibiæ and the tarsi black; coxæ unarmed.

Not very uncommon in gardens and woods in June, within the metropolitan district; found also in Salop and in Norfolk.

Sp. 26. *brunnicornis*. *Niger, antennis ferrugineis, pedibus rufis; mas geniculis posticis nigris.* (Long. corp.  $2\frac{1}{2}$ — $3\frac{1}{4}$  lin.; Exp. Alar. 5—6 lin.)

Ic. *brunnicornis*. *Gravenhorst, i. 145.—Steph. Nomen. 2d edit. col. 131.*

Black: palpi pale yellow; the male with the mouth and face entirely pale yellow, in which sex is a small white dot before the wings; abdomen blackish, finely punctured, with the edges of the 2nd and 3rd segments reddish; females occasionally with the edges of all slightly reddish; legs red, trochanters generally paler, the tips of the hinder tibiæ and of the tarsi blackish; of the male red, anterior with the coxæ and trochanters pale yellow; posterior with the coxæ either red, or with a brown spot, sometimes yellowish; trochanters red or yellowish, the extreme tip of the femora black, and the apex of the tibiæ and of the joints of the tarsi also black; wings hyaline, stigma and costa pale pitchy; scales yellow; cellule 5- or 3-angular.

Found, not rarely, near London, in June and July.

Sp. 27. *brevicornis*. *Niger, pedibus rufis, antennarum annulo albo.* (Long. corp.  $3$ — $3\frac{3}{4}$  lin.; Exp. Alar. 6 lin.)

Ic. *brevicornis*. *Gravenhorst, i. 146.—Steph. Nomen. 2d edit. col. 131.*

Black, rather slender: antennæ somewhat setaceous, slender, half the length of the body, rusty-brown, with the 11th and 12th joints white, the 3rd red; posterior legs with the coxæ brown and the extreme tip of the tibiæ blackish; wings slightly smoky-hyaline, stigma yellowish-pitchy, the costa straw-coloured towards the base, scales pitchy or white; cellule 5-angular.

Scarce: found in June near London.

Sp. 28. *maculicornis*. *Niger, pedibus rufis, antennis porrectis maculâ albâ, ore flavo.* (Long. corp.  $2\frac{1}{4}$  lin.; Exp. Alar.  $4\frac{1}{2}$  lin.)

Ic. *maculicornis*. *Steph. Nomen. 2d edit. col. 131.*

Black: mouth yellow; antennæ slender, porrect, dusky-black, paler at the base, with the 12th and 13th joints white above; thorax with a white dot on each side beneath the wings, and another at the base before them; abdomen rather slender, acute at the apex, with the margins of all the segments chestnut; legs including coxæ and trochanters, pale red, the posterior tarsi with the base of the joints paler; wings hyaline, costa and stigma black, scales yellow.

Taken near London, in July, but rarely; also, I believe, near Andover.

Sp. 29. annulator. *Niger, femoribus tibiisque rufis, his extra albis, annulo antennarum albo, abdomine fusco, aut rufo aut badio.* (Long. corp. 2—4½ lin.; Exp. Alar. 5—7½ lin.)

Ic. annulator. *Fabricius.*—*Steph. Catal.* 350. No. 4451.

Black: labrum and middle of the mandibles, and often the clypeus, ferruginous; palpi fuscous, paler at the tip; apex of the scutellum and a dot beneath the wings frequently chestnut; abdomen variable, ovate, brown-black, with the extreme margins of the segments sometimes chestnut, or the entire surface chestnut, or bright red, with all intermediate shades; legs rather short, red, with black coxæ and trochanters, sometimes red or chestnut beneath; posterior femora with the apex occasionally dusky; 4 anterior tibiæ with a white dot in the middle; posterior ferruginous beneath, with the apex blackish, the middle portion white without, tarsi fuscous; antennæ filiform, involuted, 1st joint black, sometimes red beneath, the following fuscous, with the 8th to 14th more or less white, with a fuscous dot beneath; wings subhyaline, stigma and costa generally dull ferruginous, scales fuscous, or yellowish.

Femora sometimes black.

Of this variable insect, all the variations of which are females, I suspect Ic. fabricator (which is almost equally variable, and of which only the males are known) to be the opposite sex.

Extremely abundant, in gardens, woods, &c. throughout the metropolitan district, in June: frequent also in Salop, the New Forest, Norfolk, &c.

Sp. 30. tibiator. *Niger, femoribus anticis pro parte rufis, tibiis anticis rufis, posterioribus extra albis.* (Long. corp. 2¼ lin.; Exp. Alar. 4¼ lin.)

Ic. tibiator. *Gravenhorst*, i. 151.—*Steph. Nomen.* 2d edit. col. 131.

Black: antennæ porrect, somewhat setaceous, rather more than half the length of the body; abdomen with the basal segment smooth, slightly channelled, a little constricted towards the base, with the lateral tubercles minute, peduncle as long as the joint, and about half as slender, 2nd to 5th segments somewhat equal in width, the 2nd occasionally with the extreme margin chestnut; legs rather slender; anterior red, with the coxæ, trochanters, and convex side of the femora black; tarsi brownish; 4 posterior legs black,



with the tip of the middle femora rusty, the tibiæ white in the middle without; wings hyaline, iridescent; stigma yellowish or fuscous, costa fuscous, scales yellowish or black; cellule 5-angular.

Found, but rarely, near London, in June.

Sp. 31. *pumilus*. *Niger, antennis ferrugineis, apice et articulo 1-mo nigris, femoribus tibiisque anticis subtus stramineis, segmentis intermediis plerumque margine summo castaneis.* (Long. corp. 2—2½ lin.; Exp. Alar. 4½—5 lin.)

Ic. *pumilus*. *Gravenhorst, i. 152.—Steph. Nomen. 2d edit. col. 132.*

Black: mouth ferruginous, palpi paler; antennæ filiform, involuted, dull ferruginous, paler beneath, and brownish towards the tip, the basal joint black; abdomen oblong, black, sometimes with the extreme margins of the segments chestnut; legs moderate, brown-black, anterior sometimes red, or dull yellow, coxæ black, the convex portion of the femora for the most part dusky or black; middle generally with the tarsi, the inner edge of the tibiæ, and the tip of the femora ochreous; posterior with the tarsi, and the tip of the femora, in general, rusty or red; tibiæ black, with the base more or less bay; wings with the stigma black or pitchy, the costa and scales brown, the latter sometimes yellow.

Common throughout the metropolitan district, in June and July, at Darenth, Hertford, &c. and in Salop.

§ II. *Scutellum* and *abdomen* black, the apex of the latter with white dots or marks.

Sp. 32. *cessator*. *Niger, femoribus tibiisque rufis, posticis apice nigris.* (Long. corp. 6½ lin.; Exp. Alar. 13 lin.)

Ic. *cessator*. *Müller.—Ic. custodiator. Steph. Catal. 347. No. 4360.*

Black: metathorax punctured irregularly, with two minute rather acute tubercles; abdomen silky, acute at the apex, the 3 basal segments punctured, the following shining, the 6th and 7th each with a white dorsal spot; legs bright red, or pale saffron, the coxæ and trochanters black; the apex of the hinder trochanters red, and of their tibiæ, as well as the posterior tarsi, black; wings rather smoky-hyaline, with the stigma ferruginous or brown, the costa and scales black or brown.

Very rare: I have the insect from the vicinity of the metropolis, captured in June: it occurs also in Norfolk.

Sp. 33. *leucopygus*. *Niger, femoribus tibiisque rufis, posticis apice nigris, annulo antennarum albo.* (Long. corp. 3½—4 lin.; Exp. Alar. 7—7½ lin.)

Ic. *leucopygus*. *Gravenhorst, i. 156.—Steph. Nomen. 2d edit. col. 132.*

Black: antennæ with the 9th to 15th joints white, with a brown dot beneath; abdomen with the 1st and 2nd segments edged with reddish, the 6th and 7th with the back entirely white; legs red, coxæ and trochanters black; anterior femora with the convex edge, and the posterior with the apex dusky; the hinder tibiæ black at the tip, and their tarsi fuscous; wings

smoky-hyaline, with the stigma pale red, the costa and scales fuscous; cellule somewhat triangular.

Femora sometimes dusky or blackish.

Also rare, and taken in June near London, and in Warwickshire.

†Sp. 34. transfuga. *Niger, femoribus tibiis anterioribus et antennarum medio rufis, ano subalbo notato.* (Long. corp. 4 lin.; Exp. Alar.  $7\frac{1}{2}$  lin.)

Ic. transfuga. *Gravenhorst, i. 158.—Steph. Nomen. 2d edit. col. 132.*

Black: palpi fuscous; antennæ with the 4th to 6th joints entirely, and the 7th and 8th above, rusty-red; abdomen glossy, the 7th segment obsoletely white; legs with the coxæ and trochanters black, the posterior ones above chestnut-red; femora chestnut-red, anterior black at the base; anterior tibiæ chestnut-red, posterior dusky, dull chestnut towards the base, 4 anterior tarsi reddish, posterior fuscous; wings smoky-hyaline, with the stigma, costa, and scales black.

Rare: taken in Shropshire, and near London, in June.

§ III. *Scutellum* pale, or with pale marks; *abdomen* totally black.

Sp. 35. fossorius. *Niger, subsericeus, stigmatè, femoribus tibiisque dilutè croceis; mas facie et antennarum articulo 1-mo infernè flavis; fœmina antennarum annulo albedo.* (Long. corp.  $6\frac{3}{4}$ —8 lin.; Exp. Alar. 11—13 lin.)

Ic. fossorius. *Linné.—Steph. Catal. 346. No. 4331.*

Silky-black: face and mouth yellow, mostly with an impressed black dot on the sides of the clypeus, rarely 2 on the face; thorax generally with a white dot before the wings and another below; scutellum white, or with only the tip, a spot on the tip, or 2 minute dots of that colour, or totally black; abdomen with the 1st segment rather swollen, with a slender peduncle, the 2nd to 6th nearly equal in width; legs dull saffron red; the coxæ and trochanters black, the 4 anterior yellow beneath; hinder tarsi and tibiæ dusky at the apex; antennæ porrect, slightly curved at the tip, with the basal joint white beneath; wings ochreous-hyaline, the stigma and costa saffron-red, the last sometimes fuscous; scales fuscous or black, occasionally with a white dot.

Female with the antennæ incurved, ferruginous below, with the 9th to 16th joints generally white above; thorax with a yellowish dot beneath the wings; abdomen rather narrowed towards the tip, and faintly compressed, its 7th segment with an obscure yellowish line, and the 2nd and 3rd segments opaque.

Abundant in the vicinity of London, on flowers, &c. in June and July.

Sp. 36. cognatus. *Niger, femoribus tibiisque rufis; fœmina antennarum annulo albo.* (Long. corp.  $5\frac{3}{4}$ —8 lin.; Exp. Alar. 11—13 lin.)

Ic. cognatus. *Steph. Catal. 346. No. 4332.*

Black: mandibles generally reddish in the middle; thorax often with a streak



below the wings, a dot before them, and a transverse streak below the scutellum white, or testaceous; scutellum white; abdomen rather slender, 2nd and 3rd segments slightly opaque, the rest more glossy, and the margin of the 2nd in the females usually chestnut; legs bright or saffron-red; the coxæ and trochanters black; tibiæ frequently whitish-yellow, with the tip straw-colour, posterior generally black at the tip; the hinder tarsi black, with the basal joint rusty; antennæ porrect in the male, incurved at the tip in the female, with the 8th to 11th joints more or less white above, brown or rusty beneath, the 4th to 8th generally ferruginous below; wings with the stigma brown-black, or pitchy, costa brown or red, scales black or brown, sometimes yellowish.

Also common near London, during the summer, frequenting umbelliferous flowers, &c. by wood-sides and hedges.

Sp. 37. *crassicornis*. *Niger, femoribus tibiisque rufis, scutello lineâque transversali metathorace albis, antennis brevioribus, crassioribus.* (Long. corp. 7 lin.; Exp. Alar.  $11\frac{1}{4}$  lin.)

Ic. *crassicornis*. *Steph. Nomen. 2d edit. Appendix.*

Black: mandibles reddish at the apex; thorax with a white dot before the wings; scutellum white, with a transverse streak of the same hue behind, on the metathorax; abdomen oblong-ovate, slightly silky, and glossy at the apex; legs pale red, coxæ and trochanters black; the extreme tip of the hinder tibiæ dusky, and the posterior tarsi black; antennæ short, rather thick, attenuated at the apex, and porrect; wings smoky-hyaline, the costa and stigma fuscous; scales black, with a white dot.

Taken near London, in June, I believe at Hertford.

Sp. 38. *trucidator*. *Niger, abdomine cæruleo-nigro, femoribus tibiisque rufis, posticis fusco maculatis.* (Long. corp.  $5\frac{1}{2}$  lin.; Exp. Alar. 11 lin.)

Ic. *trucidator*. *Gravenhorst, i. 172.—Steph. Nomen. 2d edit. col. 132.—Ic. sepiatorius. Marsham MS.—Steph. Catal. 347. No. 4358.*

Black: antennæ rather short; scutellum with a white dot at the apex; abdomen glossy blue-black, with the basal segment a little dilated towards the apex; legs slender, red; coxæ and trochanters black; posterior femora, with the base, apex, and inner side fuscous; tibiæ fuscous, with the base and inner margins reddish; tarsi black; wings with the stigma, costa, and scales fuscous; cellule somewhat triangular.

Seemingly very rare: found in July near London.

Sp. 39. *albosignatus?* *Niger, orbitis oculorum internis albis, femoribus tibiisque rufis, posticorum apice nigro.* (Long. corp. 5 lin.; Exp. Alar.  $8\frac{1}{2}$  lin.)

Ic. *albosignatus*. *Gravenhorst, i. 167?—Steph. Nomen. 2d edit. col. 132.*

Slender, black: palpi fuscous; inner orbits of the eyes towards the antennæ whitish; thorax with a minute white dot before the wings; scutellum white; abdomen with the margin of the basal segment faintly chestnut; legs pale red, with the coxæ and trochanters black, the intermediate and posterior

tarsi, and tips of the hinder femora and of the tibiæ, black; wings smoky-hyaline, with the stigma, costa, and scales fuscous; cellule somewhat triangular.

Rare: found in the north of England, and in Scotland.

Sp. 40. multicolor. *Niger, orbitis oculorum internis et puncto ad alarum radicem albis, stigmatē, femoribus, tibiisque rufis; fœm. annulo antennarum albo.* (Long. corp.  $7\frac{1}{4}$  lin.; Exp. Alar. 13 lin.)

Ic. multicolor. *Gravenhorst.—Steph. Catal. 346. No. 4333.*

Black: mandibles ferruginous; inner orbits white; thorax of the male with a streak below the wings, of the female with a dot before and 2 dots on the back white; scutellum entirely white in the female, with the tip only so in the male; abdomen opaque, with the 6th and 7th segments glossy, the 2nd in the male sometimes obscurely chestnut; legs pale red, the coxæ and trochanters black, posterior with the tarsi black, the basal joint sometimes reddish in the male, and in that sex the apex and femora sometimes black; antennæ with the 3rd to 10th joints rusty-brown, the 11th to 16th white above; wings hyaline, smoky, or somewhat reddish, with the stigma fuscous or pitchy, sometimes dull yellowish in the male; costa fuscous; scales black, occasionally with a white dot.

Found, but very rarely, within the metropolitan district, in July.

Sp. 41. monostagon. *Niger, orbitis oculorum internis albidis, stigmatē fusco, femoribus tibiisque rufis.* (Long. corp. 6 lin.; Exp. Alar. 11 lin.)

Ic. monostagon. *Gravenhorst.—Steph. Catal. 346. No. 4335.*

Black: palpi dirty-whitish; inner orbits of the eyes and a spot on the sides of the clypeus dull white; thorax with a minute dot beneath the wings; scutellum white at the tip; abdomen somewhat opaque, with the apex shining; legs red, coxæ and trochanters, as well as the hinder tarsi and apex of their tibiæ black, middle tarsi fuscous; wings hyaline, a little stained towards the apex, the stigma, costa, and scales dusky.

Also taken occasionally, within the metropolitan district, in June.

Sp. 42. albicillus. *Niger, facie, coxis anticis, lineis duabus ante scutellum, lineaque ante alis albis, femoribus tibiisque rufis, posticis fuscescentibus.* (Long. corp.  $5\frac{1}{2}$  lin.; Exp. Alar. 10 lin.)

Ic. albicillus. *Gravenhorst, i. 177.—Steph. Catal. 346. No. 4336.*

Black: mouth, orbits, and face white, the last with a black cloud; the basal joint of the antennæ also white; thorax with a streak before the wings, a shorter one beneath, and one on each side of the scutellum, with a transverse one behind the latter, and its lateral margins, white; abdomen blue-black, with the 2nd to 6th segments a little depressed on the back, and with the extreme margins red; legs with the anterior coxæ dirty-white, trochanters black, femora and tibiæ dull red, pale straw beneath, tarsi whitish; middle with the coxæ and trochanters black, femora chestnut, beneath straw-colour,



tibiæ red, straw-colour beneath, tarsi pale straw; posterior with the coxæ and trochanters black, femora dusky, with the inner edge chestnut, tibiæ and tarsi brown; wings hyaline, with the stigma and costa pitchy-straw, scales white; cellule somewhat 3-angular.

Rare: taken near London, in July.

Sp. 43. femorator. *Niger, femoribus anterioribus tibiisque omnibus rufis, horum posticorum apice fuscis, scutelli apice albo.* (Long. corp.  $6\frac{1}{2}$  lin.; Exp. Alar.  $10\frac{1}{2}$  lin.)

Ic. femorator. *Steph. Nomen. 2d edit. Appendix.*

Black: head rather small; palpi fuscous; scutellum with a triangular white spot at the apex; abdomen obscure black, slightly shining towards the apex, which is obtuse; coxæ and trochanters all black; 4 anterior femora, tibiæ, and tarsi, light red; posterior femora black; tibiæ dull red, with the tip fuscous; tarsi black; antennæ porrect, black; wings smoky-hyaline, darkest at the apex; costa, stigma, and scales black; cellule triangular.

Found, but rarely, in June, near London.

Sp. 44. trilineatus? *Niger, orbitis oculorum internis, punctis ad alarum radicem, scutellique margine laterali albis, stigmatibus fusco, femoribus tibiisque anterioribus rufis.* (Long. corp.  $6\frac{1}{2}$  lin.; Exp. Alar.  $10\frac{1}{2}$  lin.)

Ic. trilineatus. *Gmelin?—Steph. Nomen. 2d edit. col. 132.*

Black: palpi, spot on the mandibles, and the inner orbits of the eyes broadly white, the outer orbits in part faintly whitish; basal joint of the antennæ with a white dot beneath, the following slightly rufescent; thorax with a white streak before the wings; scutellum with the lateral margins and apex obsoletely white, or with a minute white dot, rarely black; abdomen black, opaque at the base, glossy and bluish towards the apex, which is acute; coxæ and trochanters and posterior legs entirely black; 4 anterior femora chestnut, with the base and middle partly black, their tibiæ chestnut-red; tarsi a little dusky towards the apex; wings hyaline, with the costa, stigma, and scales black; cellule nearly 3-angular.

Females said by Gravenhorst to have a white ring on the antennæ, which are curved.

Taken, but rarely, near London, in July.

Sp. 45. pedatorius. *Niger, femoribus tibiisque rufis, harum posticis apicem versus nigris; mas facie flavâ; fœm. antennis albo annulatis.* (Long. corp. 4—5 lin.; Exp. Alar.  $9\frac{1}{2}$ — $10\frac{1}{2}$  lin.)

Ic. pedatorius. *Fabricius.—Ic. annulator. Steph. Catal. 346. No. 4337.*

Black: mouth, face, and outer orbits yellow; in the female the inner orbits alone faintly yellow, or whitish; thorax generally with a white dot beneath the wings; scutellum with a whitish or yellow dot at the tip; abdomen rather narrow, with the 2nd to 4th segments of equal width, the 2nd in the males generally slightly edged with chestnut; legs moderate, red, coxæ and trochanters black; apex of posterior tibiæ and hinder tarsi black;

middle tarsi brownish; antennæ of the male porrect, with the basal joint yellow beneath; of the female slightly curved at the apex, with the 11th to 15th joints, and occasionally one or two others, white above, fuscous beneath; wings hyaline, iridescent; stigma brown or rusty, costa brown, scales white or yellowish in the males, black in the females; cellule somewhat 3-angular.

The male has one, or more, pair of the coxæ frequently marked with a white dot.

Also rare, and found within the metropolitan district, in June.

Sp. 46. ochropis. *Niger, annulo antennarum albo, femoribus tibiisque rufis, thorace rufo, aut albopicto; mas facie et scutello albidis; fœmina facie et scutello rubro pictis.* (Long. corp. 5—5½ lin.; Exp. Alar. 8½—9½ lin.)

Ic. ochropis. *Gmelin.—Steph. Nomen. 2d edit. col. 132.*

Black; mouth and face white; antennæ porrect, basal joint white beneath, then about 13 pale red, 4 or 5 entirely white, and the rest black; thorax with a dot before and beneath the wings, and a transverse streak beneath the scutellum whitish, or reddish; scutellum whitish, or red, with the centre yellow; abdomen slender, finely punctured, entirely black, or with some of the basal segments faintly edged with chestnut; legs red; hinder coxæ sometimes blackish above, or all the coxæ and the trochanters at the base black; posterior tarsi sometimes fuscous at the tip; wings with the costa and scales pitchy; stigma rather ochreous; cellule somewhat 5-angular.

Female with the inner orbits and face more or less reddish or bay; antennæ incurved, the basal joint black, 6 or 7 following black or brown, then about as many white, and the remainder black; scutellum entirely, or at the apex, red-bay; abdomen black, or dull bay, with the margins of the segments sometimes paler, the 7th entirely, and the edge of the 6th, white; ovipositor slightly exerted; legs with the coxæ dusky; wings somewhat yellowish.

Larvæ feed on that of *Abraxas Grossulariata*.

Not uncommon in June, in the vicinity of London; found also in Salop.

Sp. 47. fabricator. *Niger, scutelli apice, facieque albis, antennis infernè, femoribus tibiisque rufis.* (Long. corp. 3½—6½ lin.; Exp. Alar. 6½—12 lin.)

Ic. fabricator. *Fabricius.—Steph. Catal. 347. No. 4351.*

Black: mouth, face, and generally a portion of the outer orbits of the eyes yellowish-white; antennæ porrect, above fuscous, basal joint yellow or red; remainder reddish, with the apical ones sometimes fuscous beneath; thorax sometimes with a dot before and a streak beneath the wings, and, rarely, another transverse one below the scutellum yellowish; scutellum with the extreme apex or 2 minute dots yellowish; rarely immaculate; abdomen with 2 more or less distinct elevated lines on the basal segment, the 2nd with the base aciculated, and with 2 obsolete red dots, and the extreme edge sometimes chestnut; legs reddish, more or less bright; coxæ and



trochanters black, anterior occasionally reddish beneath; posterior with the tarsi, and at times the apex of the tibiæ and femora black or dusky; wings hyaline, with the stigma, costa, and scales brown or pitchy, sometimes reddish; cellule obscurely 3-angular, or 5-angular.

Extremely variable in size: the face is more or less spotted with black, and the antennæ are sometimes entirely black, excepting the white under side of the basal joint.

I suspect this insect to be the male of *Ic. annulator*, as stated in p. 137.

Extremely abundant, within the metropolitan district, about June, in hedges and on umbelliferous flowers; taken also near Dover, in the New Forest, Salop, &c.

*Sp. 48. fulvipes. Niger, trochanteribus femoribus tibiis tarsisque anterioribus pallide rufis, scutelli apice facieque albis.* (Long. corp.  $2\frac{1}{2}$  lin.; Exp. Alar.  $4\frac{1}{2}$ —5 lin.)

*Ic. fulvipes. Steph. Nomen. 2d edit. col. 132.*

Black: face and basal joint of the antennæ beneath white; thorax with a minute dot beneath the wings, and the apex of the scutellum white; abdomen glossy, with the margin of the 2nd segment slightly edged with chestnut; legs, excepting the coxæ, which are black, pale red, the extreme tip of the hinder tibiæ and the hinder tarsi fuscous; wings hyaline, with the costa and scales fuscous, stigma pale reddish.

Taken at Hertford, in July.

*Sp. 49. albifrons, Niger, facie et scutelli apice albis, femoribus tibiisque anterioribus pallide rufis.* (Long. corp.  $5\frac{1}{2}$ — $6\frac{1}{4}$  lin.; Exp. Alar. 10— $11\frac{1}{2}$  lin.)

*Ic. albifrons. Steph. Nomen. 2d edit. Appendix.*

Black: face white, external orbits of the eyes above slightly so; thorax with an obscure whitish streak before the wings, and the apex of the scutellum also whitish, sometimes with 2 dots only of that colour; abdomen with the basal segments rough, and with 2 faintly elevated lines, the apical ones smooth and glossy; 4 anterior femora and tibiæ pale red, coxæ, trochanters, and hinder legs black; intermediate tarsi and femora at the base behind dusky; antennæ black, with the basal joint white in the middle beneath; wings hyaline, slightly fuscous, with the costa, stigma, and scales black. Found near London, and in Salop, in June.

*Sp. 50. dissimilis. Niger, antennarum annulo albo, femoribus tibiisque rufis, posticis apice nigris; mas facie et scutelli apice albis; fœmina orbitis oculorum internis et scutelli apice rufescentibus.* (Long. corp.  $3\frac{1}{4}$ —4 lin.; Exp. Alar. 5—6 lin.)

*Ic. dissimilis. Gravenhorst, i. 190.—Steph. Nomen. 2d edit. col. 132.*

Black: male with the mouth and face white; female with the inner orbits reddish or whitish; antennæ of the male porrect, basal joint reddish beneath, 13th to 17th white, remainder ferruginous; of the female curved, with a few

white joints in the middle ; thorax with an obscure white streak at the base of the wings ; scutellum white at the tip of the male, and of the female entirely white ; abdomen with the extreme margin of the 2nd segment chestnut, and sometimes with the edges of all the segments of the females ; the ovipositor slightly exerted ; legs red, coxæ and trochanters black ; the posterior with the extreme tips of the femora, tibiæ, and joints of the tarsi, black ; wings hyaline, slightly smoky in the male, the costa, stigma, and scales, pitchy or brown, paler in the female.

Taken, but rarely, near London ; also, I believe, in Wiltshire.

Sp. 51. *candidatus*. *Niger, pedibus rufis, coxis, trochanteribus, facie, punctisque ad alarum radicem, albis.* (Long. corp.  $3\frac{1}{4}$  lin. ; Exp. Alar. 5 lin.)

Ic. *candidatus*. *Gravenhorst, i. 193.—Steph. Nomen. 2d edit. col. 132.*

Black : mouth and face white ; antennæ porrect, with the basal joint white, the rest rusty-brown ; thorax with 2 white dots at the base of the wings ; scutellum white at the apex ; abdomen with the basal segment shining, the following silky ; 4 anterior legs pale saffron, with the coxæ and trochanters white ; posterior red, the coxæ fuscous, with the tip white, trochanters white, the extreme apex of the femora and of the tibiæ and tarsi fuscous ; wings hyaline, the costa and stigma fuscous, the scales white ; cellule 5-angular.

Taken at Hertford in June ; rare.

Sp. 52. *iridipennis*. *Niger, femoribus tibiisque rufis, lineâ albâ ante alas : mas facie et antennarum articulo 1-mo subtus albo ; fœmina orbitis oculorum internis et antennarum annulo albis.* (Long. corp. 3— $3\frac{1}{4}$  lin. ; Exp. Alar.  $5\frac{1}{2}$  lin.)

Ic. *iridipennis*. *Gravenhorst, i. 194.—Steph. Nomen. 2d edit. col. 132.*

Black : mouth, face, frontal orbits of the eyes, and sometimes a portion of the exterior ones yellowish-white ; of the female the inner orbits towards the antennæ and a portion of the outer above are white ; thorax with a white line before the wings, and occasionally a transverse one below the scutellum, which is pale yellow ; abdomen sometimes with the extreme edge of the 2nd segment, and a dot at its basal angles chestnut ; legs red ; coxæ and trochanters usually black, 4 anterior of the male more or less spotted with white ; the extreme tip of the hinder femora and tibiæ, in this sex, frequently dusky ; antennæ also porrect, with the basal joint yellow or white beneath ; of the female with 3 or 4 of the middle joints white above ; wings more or less hyaline, iridescent, the stigma and costa pitchy or straw-colour ; cellule somewhat 3-angular.

Found in June at Hertford, and again in July last.

Sp. 53. *pallidatorius*. *Niger, facie albâ, pedibus anterioribus stramineis, femoribus externè obscuris, posticis nigris, tibiærum basi albâ.* (Long. corp.  $5\frac{1}{2}$  lin. ; Exp. Alar. 10 lin.)

Ic. *pallidatorius*. *Gravenhorst, i. 196.—Steph. Nomen. 2d edit. col. 132.*

Black : face, mouth, and part of the outer orbits above, white ; antennæ



reddish-brown beneath, with the basal joint whitish; thorax with a line below the scutellum, a streak before, and a dot beneath the wings, as well as one on the breast, white; scutellum more or less white; abdomen dusky-black, silky, with the margin of the 2nd segment and a spot on each side at the base chestnut; the other segments more or less faintly bordered with the same; 4 anterior legs straw-colour, with the coxæ and trochanters whitish, the femora dusky within; tarsi whitish, with the basal joint fuscous; posterior legs dusky-black, with the base of the femora, and the apex of the coxæ and trochanters sometimes whitish-yellow, as are also the base of the tibiæ and the middle of the tarsi; wings hyaline, iridescent, with the stigma and costa pitchy-brown, scales whitish, with occasionally a black dot; cellule somewhat 3-angular.

Rare: taken in June at Darenth wood.

Sp. 54. *umbraculosus*. *Niger, scutelli margine laterali, orbitisque oculorum internis, albis: mas punctis albis ad radicem alarum; fœmina antennarum annulo albo.* (Long. corp. 6—6½ lin.; Exp. Alar. 10—11 lin.)

Ic. *umbraculosus*. *Gravenhorst, i. 199.—Steph. Nomen. 2d edit. col. 132.*

Black: inner orbits of the eyes, and sometimes a portion of the outer and a spot on the mandibles white; antennæ of the male with the basal joint frequently white beneath; of the female with about 6 joints towards the middle white; thorax with a streak before and dot beneath the wings white; scutellum with its lateral margins more or less distinctly white; abdomen of the male blue-black, with the incisions sometimes obscurely chestnut; of the female black, or very faintly bluish; ovipositor scarcely exerted: legs black; anterior femora of the male somewhat rusty or straw-coloured beneath, and of the female at the apex only; tibiæ brown or black, beneath straw-coloured in the male, rusty in the female; middle in this sex fuscous beneath, in the male as in the anterior, and the posterior with the tibiæ somewhat rusty-brown towards the base; wings smoky-hyaline, with the costa, stigma, and scale brown; cellule mostly 3-angular.

Larva feeds on that of *Eyprepia caja* and *Abraxas grossulariata*.

Very common, within the metropolitan district, in June and July; also found in the New Forest and in Salop.

Sp. 55. *luctuosus*. *Niger, scutelli apice, orbitisque oculorum internis albis.* (Long. corp. 6—7½ lin.; Exp. Alar. 12 lin.)

Ic. *luctuosus*. *Gravenhorst.—Steph. Catal. 347. No. 4348.*

Black: palpi and inner orbits white; thorax generally with a white dot beneath the wings, and another before; metathorax impressed; scutellum either almost entirely white, or at the apex only, sometimes with merely 2 dots; abdomen fuscous or black, with the incisures distinctly or obsoletely chestnut; legs black, 4 anterior with the inner edge of the femora and tibiæ straw-coloured; wings smoky-hyaline, with the stigma and costa brown, or pitchy; scales fuscous; cellule 5-angular.

Taken at Darenth wood, apparently rare, in June.

Sp. 56. *gemellus*. *Niger, punctis duobus apicalibus scutelli, duobus ad radicem alarum, orbitis oculorum, et antennarum articulo 1-mo subtus albis.* (Long. corp. 5—6 lin.; Exp. Alar. 10 lin.)

Ic. *gemellus*. *Gravenhorst, i. 201.—Steph. Nomen. 2d. edit. col. 132.*

Black: palpi, a spot on the mandibles, and the orbits of the eyes, internally and externally, white; antennæ beneath, with the basal joint white, the remainder reddish; thorax with a dot before and another behind the wings, and scutellum with 2 minute dots at the apex also white; abdomen with the 2nd, 3rd, and sometimes the 4th segments slightly rufescent at the incisures; legs black, 4 anterior, with the tibiæ and tarsi, and sometimes the outer edge of the femora reddish, or straw-coloured, the 4 hinder tibiæ more or less dusky, with the posterior pair rusty towards the base; wings smoky-hyaline, with the stigma, costa, and scales fuscous; cellule 3-angular.

Found near London in June, not common.

Sp. 57. *binotatus*. *Niger, facie albâ maculâ nigrâ, thoracis lineâ laterali lateribus scutelli orbitisque oculorum externis albidis.* (Long. corp. 5½ lin.; Exp. Alar. 9 lin.)

Ic. *binotatus*. *Steph. Nomen. 2d edit. col. 132.*

Black: palpi fuscous; face white, with a large costal black patch; outer orbits broadly whitish; thorax with a broad white streak on the margin of the collar, and a line below the wings ochreous; scutellum with its lateral margins whitish; abdomen bluish-black, opaque, and delicately punctured; legs black; anterior coxæ with a white spot, their femora at the apex and tibiæ in front also white; middle femora and tibiæ the same, rusty-brown without; hinder tibiæ slightly brownish towards the apex; 4 anterior tarsi pale, posterior black; wings smoky-hyaline, with the stigma, costa, and scales black.

Rare: I possess 2 specimens taken many years since near London.

Sp. 58. *dumeticola*. *Niger, sericeus, orbitis oculorum internis, punctis duobus ad alarum radicem albis, tibiis anterioribus infernè flavis.* (Long. corp. 4—5 lin.; Exp. Alar. 8—9½ lin.)

Ic. *dumeticola*. *Gravenhorst, i. 203.—Steph. Nomen. 2d edit. col. 132.*

Silky-black: palpi, spot on the mandibles, side of the clypeus, and inner orbits white; antennæ dull ferruginous beneath, with the basal joint black; thorax with a minute white dot before the wings and another below them; scutellum more or less white; abdomen ovate-lanceolate, finely punctured, with the extreme margin of the 2nd and 3rd segments dull ferruginous, or straw-coloured; legs black, 4 anterior, with the base of the tibiæ and one side of them, with that of the tarsi, whitish; anterior femora internally, and middle at the apex, straw-coloured; tibial spines all white; wings smoky-hyaline;



stigma and costa brown, scales the same, with a white dot, or entirely white ; cellule 3-angular.

Also uncommon : taken at Coombe wood, in July.

Sp. 59. *dolorosus*. *Niger, orbitis oculorum lineaque ante alas flavis, annulo antennarum albo, pedibus anterioribus piceis.* (Long. corp.  $4\frac{1}{2}$  lin.; Exp. Alar. 9 lin.)

Ic. *dolorosus*. *Gravenhorst, i. 204.—Steph. Nomen. 2d edit. col. 204.*

Black : palpi and dot on the mandibles straw-colour, a spot on the sides of the clypeus, the inner, and part of the outer orbits yellow ; antennæ with the 10th to 13th joints white, with a brown dot beneath, the basal one straw-coloured beneath ; thorax with the margin of the collar, a streak before the wings, another beneath them, a transverse one below the scutellum, and this last, yellow ; abdomen with the extreme edges of the 2nd, 6th, and 7th segments somewhat straw-coloured ; legs black ; anterior femora pitchy-brown, dull straw-colour beneath, tibiæ pitchy-straw, paler beneath ; middle femora blackish-brown, with the apex and the tibiæ beneath straw-colour, the tibiæ outside, and the tarsi fuscous ; wings hyaline, the stigma and costa black ; scales yellowish, with the base black.

Scarce : found in June near London.

Sp. 60. *funereus*. *Niger, annulo antennarum albo.* (Long. corp. 6—7 lin.; Exp. Alar.  $13\frac{1}{2}$  lin.)

Ic. *funereus*. *Fourcroy, ii. p. 406.—Steph. Nomen. 2d edit. col. 132.*

Black : mandibles frequently chestnut ; antennæ with the 9th to the 13th or 16th joints white, with a dusky spot beneath ; abdomen with the apex obtuse, shining, the 2nd and 3rd segments somewhat opaque ; legs variable, the anterior femora and tibiæ more or less ferruginous or straw-coloured within ; the middle dusky beneath, and the posterior somewhat ferruginous at the base, with a pale obsolete dot towards the inner edge ; 4 anterior tarsi ferruginous, posterior fuscous ; wings slightly hyaline, or yellowish, with the stigma straw-colour, or rusty, rarely brown ; the costa and scales fuscous, or black ; cellule 5-angular.

Also very rare : taken in July, at Darenth wood.

Sp. 61. *leucocerus*. *Niger, antennarum annulo, orbitis oculorum internis punctisque ad radicem alarum albis, abdomine cærulescente.* (Long. corp.  $6\frac{1}{2}$ —8 lin.; Exp. Alar. 14—16 lin.)

Ic. *leucocerus*. *Gravenhorst.—Steph. Catal. 346. No. 4339.*

Black : facial orbits and a lateral spot on the clypeus white ; in the female the frontal orbits alone whitish ; antennæ porrect, involuted in the female, with about 7 of the central joints white, more in the female than in the male ; thorax with the upper margins of the collar, a dot before, and another beneath the wings white ; scutellum white, edged with black in the female ;

abdomen blue-black, opaque, glossy at the apex; legs black, 4 anterior femora with a reddish or straw-coloured spot at the apex beneath; anterior tibiæ pale straw beneath, middle either entirely fuscous, or rusty beneath; wings smoky-hyaline; stigma red or fuscous, costa and scales black; cellule somewhat 5-angular.

Not common: found near London, and in the north of England, in July.

Sp. 62. *Pratensis*. *Niger, lineis duabus albis ad radicem alarum, pedum anteriorum tibiis et femorum latere altero dilute rufis.* (Long. corp.  $6\frac{1}{4}$  lin.; Exp. Alar.  $12\frac{1}{2}$  lin.)

Ic. *Pratensis*. *Gravenhorst*, i. 212.—*Steph. Nomen*. 2d edit. col. 132.

Black: antennæ about half the length of the body; thorax with a line before the wings, and a streak beneath white; scutellum also white; abdomen somewhat silky, with the extreme margins of the 2nd and 3rd segments pitchy-straw; legs black, 4 anterior with the tibiæ and tarsi straw-colour; femora red within, posterior somewhat silky, with the tibiæ dull straw-colour, fuscous externally at the apex; wings smoky-hyaline, stigma pitchy, costa black, scales white; cellule 5-angular.

Also found, but very rarely, within the metropolitan district, in July.

Sp. 63. *semiorbitalis*. *Niger, orbitis internis oculorum et articulo 1-mo antennarum subtus albis, pedum anteriorum tarsis tibiis et femorum latere altero dilute croceis.* (Long. corp.  $5\frac{1}{2}$ —6 lin.; Exp. Alar.  $10\frac{1}{2}$ —11 lin.)

Ic. *semiorbitalis*. *Gravenhorst*.—*Steph. Catal.* 346. No. 4338.

Black: palpi pitchy; facial orbits and 2 small dots between the antennæ white, the latter rusty-brown beneath, with the basal joint white; thorax immaculate, or with 2 obscure whitish streaks at the base of the wings; scutellum white; abdomen very finely punctured, opaque, with the 2nd and 3rd segments chestnut on the extreme edge; legs black, anterior with the tibiæ and tarsi, and the inside of the femora, dull saffron, the middle femora beneath and towards the apex, and the tibiæ, dull saffron, the last black at the tip, the hinder tibiæ dull straw, with the apex and extreme base black; wings somewhat hyaline, stigma and costa brown, scales black; cellule somewhat 3-angular.

Taken in June and July near London, but rare.

Sp. 64. *lugens*. *Niger, puncto albo ad radicem alarum; fœmina antennarum annulo albo.* (Long. corp.  $7\frac{1}{2}$ —9 lin.; Exp. Alar.  $13\frac{1}{2}$  lin.)

Ic. *lugens*. *Gravenhorst*, i. 215.—*Steph. Nomen*. 2d edit. col. 133.

Black: antennæ porrect, incurved in the female, with about 5 joints towards the middle white, beneath ferruginous; thorax with a streak beneath the wings, and 2 dots on the upper margin of the collar, and in the males a spot before the wings, white; scutellum whitish; abdomen with the 3 basal



segments somewhat opaque, the remainder shining; ovipositor slightly exerted; legs moderate, black, 4 anterior with the tibiæ beneath and tip of the femora rusty-white; rather thickened in the female, with the anterior tibiæ rusty beneath; wings ochreous-hyaline, the apex with a purplish tinge, stigma dull red; costa brown, scales black, with a white dot.

Also rare: found near London, in June.

Sp. 65. *laminatorius*. *Niger, facie, lineâ ante alas, tibiis tarsisque albis*. (Long. corp. 10—12 lin.; Exp. Alar. 15—15½ lin.)

Ic. *laminatorius*. *Fabricius.—Steph. Catal.* 348. No. 4413. *Albin. pl. ix. fig. sup. sinist.*

Black: mouth, face, and spot on the cheeks white, the face above with 2 or 3 abbreviated longitudinal black streaks, and the apex of the mandibles also black; antennæ with the basal joint white beneath; thorax with the suture before the wings, a spot below them, and 2 minute ones beneath the scutellum whitish; metathorax slightly pubescent; scutellum white; legs black; 4 anterior coxæ, with a spot, the trochanters, a longitudinal line on the femora, the tibiæ and tarsi, white; the tibiæ with the apex without, and the tips of the joints of the tarsi fuscous or black; posterior trochanters and middle of the femora white, tibiæ and joints of the tarsi white, with the tip black; wings smoky-hyaline, or hyaline; stigma saffron-coloured, or rusty-brown, the costa fuscous, scales black, with a whitish spot; cellule irregularly 3-angular.

The white lines on the thorax are sometimes wanting, and the occipital orbits and a portion of the outer ones are occasionally whitish.

Larva feeds on that of *Dielephila Elpenor*.

Not uncommon, in June, in the marshy places within the metropolitan district, where *Dielephila Elpenor* occurs; also found in Devonshire, &c.

Sp. 66. *Proteus*. *Niger, orbitis oculorum supernis, annuloque antennarum albis*. (Long. corp. 9—13 lin.; Exp. Alar. 15—17 lin.)

Ic. *Proteus*. *Christius.—Steph. Catal.* 347. No. 4352.—Ic. *bilineator*. *Donovan, v. xiv. pl. 478?*

Black: frontal and ventral orbits of the eyes more or less distinctly whitish; antennæ above half the length of the body, with the apex curved, with all, or the greater portion from the 6th to 15th joints white above and dusky beneath; metathorax slightly pubescent; scutellum white; abdomen oblong-ovate, as wide as the thorax; legs black, anterior beneath dull white; wings smoky-hyaline, the apex darker, stigma ferruginous; costa and scales black; cellule 5-angular.

Found with the last, of which it is probably the female.

Sp. 67. *deliratorius*. *Niger, tibiæ annulo albo; mas facie et punctis ad*

*radicem alarum albis ; fœmina antennarum annulo albo.* (Long. corp. 7—8 lin. ; Exp. Alar. 11—11½ lin.)

Ic. deliratorius. *Linné.—Steph. Catal.* 346. No. 4340.

Black : male with the mouth and face white, outer orbits ferruginous ; antennæ with the basal joint white beneath, of the female with the 9th to 18th, more or less, white ; thorax with a dot below the wings, another before, and two minute ones beneath the scutellum, white ; of the female with an obscure whitish dot below the wings only ; metathorax slightly bispinose ; scutellum white ; sometimes black at the base in the male ; abdomen bluish, with the extreme margin of the segments chestnut, the 2nd aciculated at the base ; ovipositor faintly exerted ; legs black ; anterior femora beneath more or less rusty-white, tibiæ white, with the external apex fuscous or black, 4 posterior black, with a broad white ring towards the base ; anterior tarsi white, posterior black : the male with the coxæ and trochanters more or less white, the anterior femora beneath straw-colour ; wings smoky-hyaline, with the stigma reddish or brown, the costa and scales fuscous, the last sometimes black or rusty, with a white dot in the male ; cellule 5-angular.

Not very abundant : found occasionally within the metropolitan district, in June and July, widely diffused ; also found in Salop.

Sp. 68. multiannulatus. *Niger, facie, punctis duobus ad radicem alarum annuloque tibiarum et tarsorum albis, abdomine nigro-cæruleo.* (Long. corp. 6½—7¼ lin. ; Exp. Alar. 11 lin.)

Ic. multiannulatus. *Gravenhorst, i.* 128.—*Steph. Nomen. 2d edit. col.* 133.

Black : face and mouth white ; antennæ with the basal joint white beneath ; thorax with a dot or streak before the wings, and another beneath white ; scutellum white ; abdomen blue-black, opaque, with the apex shining, the extreme edges of the 2nd and 3rd segments sometimes chestnut ; legs black, with the anterior femora interiorly pitchy-straw, the middle slightly straw-coloured at the tip ; the tibiæ white, 4 anterior towards the apex externally black or fuscous ; posterior from the middle to the tip black ; 4 anterior tarsi white, with the tips of the joints fuscous ; posterior black, with the basal joint half white ; wings smoky-hyaline, stigma and costa fuscous or rusty ; scales black, with a white dot ; cellule 5-angular.

More abundant than the last ; found in June within the metropolitan district ; also in Salop, Scotland, &c.

Sp. 69. fuscipes. *Niger, orbitis oculorum, punctis duobus ad radicem alarum annuloque tibiarum albis : mas maculis faciei et antennarum articulo 1-mo subtus albis ; fœmina antennarum annulo albo.* (Long. corp. 6½—7 lin. ; Exp. Alar. 11½ lin.)

Ic. fuscipes. *Gravenhorst.—Steph. Nomen. 2d edit. col.* 133.

Black : male with the palpi and spot on the mandibles white ; face white, black in the middle, and frequently the outer orbits and a spot on the vertical ones also white ; female with the orbits alone more or less white ; antennæ



mostly with the 1st joint white beneath ; of the female with the 9th to 15th joints white above ; thorax with a white dot beneath and another or streak before the wings ; scutellum white at the apex, or in some females with only 2 minute white dots ; abdomen blue-black, of the female somewhat violaceous ; legs black, with the anterior femora more or less ochreous ; middle in the males with the tip beneath whitish ; anterior tibiæ white, externally black, with a white ring towards the base ; middle and posterior black, with a white ring before the base ; wings smoky-hyaline, with the stigma, costa, and scales brown or black, the last sometimes with a white dot.

Rare : taken near London and in Salop, in June.

Sp. 70. *perileucus*. *Niger, puncto ad alarum radicem tibiæque annulo albis : mas orbitis internis oculorum albis ; fœmina annulo antennarum albo.* (Long. corp. 5—6 lin. ; Exp. Alar.  $9\frac{1}{2}$ —10 lin.)

Ic. *perileucus*. *Gravenhorst, i. 227.—Steph. Nomen. 2d edit. col. 133.*

Black : male with the inner orbits and frequently 2 dots on the clypeus white ; antennæ of the female ferruginous beneath, with the 9th to 14th joints white ; thorax with a white dot or streak below the wings in the female, and before them in the male, rarely one below ; scutellum white ; abdomen slightly glossy, with the 2nd segment of the male sometimes fuscous, of the female with the margin chestnut, apex obtuse ; legs black, anterior femora more or less whitish below, middle at the apex alone ; anterior tibiæ white, towards the tip in the male the outer side is ferruginous ; middle in that sex beneath white, with the apex black ; in the female with a broad white half ring towards the base, posterior with a broad ring of the same : tarsi of the female fuscous, of the male with the base of each joint somewhat whitish ; wings smoky-hyaline, stigma and costa fuscous, scales black, sometimes with a white dot in the male ; cellule 5-angular.

Scarce ; found in June near London.

Sp. 71. *edictorius*. *Niger, punctis ad alarum radicem tibiisque albis.* (Long. corp. 6 lin. ; Exp. Alar.  $10\frac{1}{2}$  lin.)

Ic. *edictorius*. *Linné.—Steph. Catal. 346. No. 4342.*

Black : antennæ porrect, scarcely half the length of the body ; thorax with a spot before the wings, and a streak beneath them, white ; scutellum white ; abdomen oblong, thickly punctured, the 2nd and 3rd segments opaque, black-brown, with the extreme margin faintly chestnut ; legs black, with the anterior femora beneath entirely, and the middle at the apex only whitish ; tibiæ white, posterior with the entire apex, and 4 anterior with the outer tip fuscous ; anterior tarsi whitish ; middle whitish-brown ; wings smoky-hyaline, the stigma pitchy, costa fuscous, scales the same, with a white dot.

Very rare : found near London in June.

Sp. 72. *biannulatus*. *Niger, orbitis oculorum internis, punctis ad alarum*

*radicem annuloque tibiæ et tarsorum albis.* (Long. corp.  $5\frac{3}{4}$  lin.; Exp. Alar.  $9\frac{1}{2}$  lin.)

Ic. biannulatus. *Gravenhorst.*—*Steph. Catal.* 347. No. 4343.

Black: spot on the mandibles, internal orbits, and a spot on the occipital ones, white; thorax with 2 white dots at the base of the wings; scutellum with 2 white dots at the apex; abdomen with the basal segment aciculated, 3 following rather depressed, slightly aciculated, rest shining; legs black; anterior femora straw-coloured within; 4 anterior tibiæ white, black within, and the apex of the middle pair entirely black; posterior black, white towards the base; anterior tarsi ferruginous; 4 posterior brown-black, with the basal joint white; wings smoky-hyaline; stigma, costa, and scales fuscous.

Very rare: found within the metropolitan district, in June.

Sp. 73. *pistorius.* *Niger, annulo antennarum et tibiæ punctisque ad radicem alarum, albis; mas orbitis internis oculorum albis.* (Long. corp.  $7\frac{1}{2}$ —8 lin.; Exp. Alar. 12 lin.)

Ic. *pistorius.* *Gravenhorst, i.* 231.—*Steph. Nomen.* 2d edit. col. 133.

Black: inner orbits white in the male; antennæ with about 6 joints towards the middle white; thorax with a streak or dot before the wings, and in the male with frequently a dot beneath them and the upper edge of the collar white; metathorax white; legs black; anterior femora beneath white or ochreous; tibiæ white, with the apex black, anterior and sometimes also the middle entirely white beneath: anterior tarsi of the male generally with the 1st joint white at the base beneath; wings smoky-hyaline in the females, ochreous-hyaline, with a purplish tinge at the tip in the males; stigma rusty or fuscous, costa and scales blackish, with a white dot on the last occasionally.

Also rare: taken at Darenth, in June.

Sp. 74. *pallipes.* *Niger, tibiis albis: mas femoribus albido maculatis; fœmina antennarum annulo et orbitis oculorum frontalibus albis.* (Long. corp. 6—8 lin.; Exp. Alar. 11— $13\frac{1}{2}$  lin.)

Ic. *pallipes.* *Gravenhorst.*—*Steph. Catal.* 347. No. 4350.

Black: mandibles sometimes red in the male, and the inner orbits obscurely pale; female with the tip of the palpi pale, the frontal orbits slightly whitish, the external red; antennæ of the female with 8 or 10 white joints towards the middle, rusty beneath: thorax often with 2 white spots at the base of the wings and 1 beneath; scutellum white; abdomen blue-black, with the extreme edge of the margins somewhat castaneous; legs black, 4 anterior femora ochreous or ferruginous in front, posterior fuscous, with a pale line above and below, or with a whitish spot at the base; tibiæ white or whitish, the apex sometimes dusky or black; posterior with the base and apex black; tarsi whitish or ochreous, posterior pair brownish or black; wings smoky-



hyaline, stigma red, or pitchy ; costa and scales black, or brown, and in the males with a white dot.

Found, but very rarely, near London.

Sp. 75. *vespertinus*. *Niger, tibiæ semianulo albo*. (Long. corp. 6 lin. ; Exp. Alar. 10 lin.)

Ic. *vespertinus*. *Christius*, 342.—*Steph. Nomen*. 2d edit. col. 133.

Black, resembling the last : legs with the anterior femora beneath with the apex rusty-white, the tibiæ beneath white, rusty towards the apex, the 4 hinder tibiæ externally white towards the base ; wings hyaline, with the apex slightly smoky ; stigma, costa, and scales black.

Obtained from Donovan's collection : locality unknown.

Sp. 76. *bipunctorius*. *Niger, orbitis oculorum internis et verticalibus latè albis, tibiis posticis versus basin externè ochraceis*. (Long. corp. 7—8 lin. ; Exp. Alar. 12—13 lin.)

Ic. *bipunctorius*. *Steph. Nomen*. 2d edit. Appendix.

Black : palpi white ; inner and vertical orbits broadly white ; thorax with the margins of the collar, a spot at the base, and another below the wings, white ; scutellum white ; abdomen finely punctured throughout, slightly opaque ; the basal segment with 2 whitish dots, or an interrupted white streak, on the extreme margin ; legs black, anterior femora at the apex and their tibiæ whitish, the last spotted with fuscous ; middle femora at the extreme tip, and tibiæ without also whitish, the last with a brownish ring towards the apex ; posterior tibiæ pale towards the base externally ; 4 anterior tarsi pale, with the tips of the joints dusky, posterior fuscous ; wings smoky-hyaline ; costa, stigma, and scales black.

Apparently rare ; \* originally obtained (without antennæ) from the Marshamian cabinet, and subsequently from Mr. Shuckard : taken near Darenth wood in June.

§ IV. *Scutellum* more or less pale, *abdomen* black, with the terminal joints white, or dotted with that colour.

Sp. 77. *saturatorius*. *Niger, annulo antennarum albo, femoribus tibiisque rufis, harum posticis apice nigro*. (Long. corp. 4—6½ lin. ; Exp. Alar. 8—11 lin.)

Ic. *saturatorius*. *Linné*.—*Steph. Catal*. 347. No. 4333.—*Id*. 350. No. 4449.

Black : frontal orbits sometimes whitish in the female ; antennæ with the 14th to 20th joints generally white, ferruginous beneath ; of the female the 9th to

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\* From the circumstance of my possessing all the original specimens of this family, out of the collections of Francillon, Marsham, Haworth, Donovan, and others, I am enabled to form some judgment of the relative scarcity of the species of this hitherto-neglected portion of our indigenous insects.

16th are white, dusky beneath, with the apex incurved ; scutellum white or yellow ; of the male with sometimes only a small spot ; abdomen of the male rather narrower than the thorax, with the 7th segment entirely white ; of the female as broad as the thorax, with the 2nd and 3rd segments finely punctured, and frequently slightly edged with reddish ; the 6th with the margin more or less broadly white, and the 7th with the back entirely of that colour ; ovipositor slightly exserted ; legs red ; coxæ and trochanters black ; posterior trochanters often reddish at the tip ; tibiæ and tarsi black at the apex, and the tips of the femora sometimes slightly fuscous ; wings smoky-hyaline ; stigma, costa, and scales black or pitchy, rarely pale ; cellule 5-angular.

The femora are sometimes black, and the insect varies extremely :—I suspect that Gravenhorst has united more than 2 species, judging from the great discrepancy observable in the specimens in my collection.

Not common ; found in June and July, within the metropolitan district ; also in Salop and in Devonshire.

Sp. 78. *submarginatus*. *Niger, segmentis 2-4 rufo marginatis, antennarum annulo albo.* (Long. corp. 4 lin. ; Exp. Alar. 7 lin.)

Ic. *submarginatus*. *Gravenhorst, i. 244.—Steph. Nomen. 2d edit. col. 133.*

Black : antennæ with the 8th to 14th joints white ; scutellum white ; abdomen thickly punctured, rather glossy towards the apex, the 2nd to 4th segments edged with red, sometimes rather faintly, the 6th and 7th white on the back ; ovipositor slightly exserted ; anterior legs with the tarsi, the interior sides of the tibiæ and the apex of the femora ferruginous, middle with the tarsi fuscous, the tibiæ towards the base and the external tip of the femora also ferruginous ; posterior tibiæ rusty-brown towards the base ; wings somewhat of a smoky-hyaline, with the stigma straw-coloured, costa brownish, scales black ; cellule 5-angular.

Not common : taken at Hertford in July.

Sp. 79. *salicatorius*. *Niger, tibiis sordidè stramineis, posticis apice nigro, segmento 2-do 3-tioque plerumque castaneo-maculatis : mas facie flavâ ; foemina annulo antennarum albo.* (Long. corp. 5½—6 lin. ; Exp. Alar. 11¼ lin.)

Ic. *salicatorius*. *Gravenhorst, i. 245.—Steph. Nomen. 2d edit. col. 133.*

Black : male with the mouth and face whitish, female with the frontal orbits chestnut or yellowish ; antennæ porrect, with the basal joint whitish beneath, of the female moniliform, curved, the 9th to 15th joints white ; thorax often with a whitish or ochreous line below the wings, and a dot before them ; scutellum whitish, yellow in the females ; abdomen with the 2nd and 3rd segments somewhat opaque, dull chestnut-black, with some obscure paler spots of a paler hue, on the disc and towards the margin ; the 3 terminal segments with a white dorsal spot ; ovipositor slightly exserted ; legs rather long, black, anterior femora of the male within entirely, and of the female at the apex, of a saffron-yellow ; tibiæ yellow, the posterior



black at the tip; tarsi red, posterior of the male black, red at the base, of the female red, with the tips of the joints black; wings yellowish-hyaline, stigma dull-saffron, costa and scales black; cellule 5-angular.

Scarce: found at Coombe wood in June.

Sp. 80. microcerus. *Niger, punctis duobus scutellaribus unoque infrà alas, albis, femoribus tibiisque rufis.* (Long. corp.  $2\frac{3}{4}$  lin.; Exp. Alar. 5 lin.)

Ic. microcerus. *Gravenhorst*, i. 249.—*Steph. Nomen*. 2d edit. col. 133.

Black: antennæ involuted, fuscous; scutellum with 2 white dots at the apex; abdomen with the extreme margin and base of the 2nd segment dull chestnut, the margin of the 6th white, and the 7th entirely white; ovipositor slightly exerted; legs red, coxæ and trochanters black; posterior with the tip of the tibiæ and tarsi fuscous; wings somewhat smoky-hyaline, with the stigma, costa, and scales fuscous; cellule nearly 5-angular.

Rare: taken near London, and I believe in Wiltshire, in June.

Sp. 81. anator. *Niger, punctis 2-bus scutelli, lineolisque punctisve ad radicem alarum, albis, femoribus tibiisque rufis: mas orbitis oculorum internis albis; foemina antennarum annulo pallido.* (Long. corp. 3— $4\frac{1}{4}$  lin.; Exp. Alar.  $5\frac{1}{2}$ —7 lin.)

Ic. anator. *Fabricius*.—*Steph. Catal.* 350. No. 4450.

Black: mouth red, palpi paler, apex of the mandibles black; facial orbits and sometimes the frontal ones white or straw-coloured in the male, frontal sometimes faintly whitish in the female; antennæ porrect, black, all but the 2 basal joints frequently rusty beneath, of the female involuted, 2 basal joints black, 3rd to 8th or 9th ferruginous or fuscous, 9th or 10th to 12th dull white above, remainder fuscous; thorax of the male with the upper and often the lateral margins of the collar, a line before the wings; and another beneath, white; of the female with only a dot below and an obscure one before the wings white; scutellum with 2 white spots, sometimes united, at the apex; abdomen silky, with the 2 or 3 basal segments sometimes obscurely margined with chestnut, and the 2 last more or less white above; legs rather short, red, with the coxæ and trochanters and apex of the hinder tibiæ and tarsi, and occasionally that of the femora, black; wings very slightly smoky-hyaline; stigma and costa fuscous or black, scales brown or black, with sometimes a white dot in the male.

Rather uncommon; found in gardens and woods in the vicinity of London: I have taken specimens in the windows at the Hermitage, in July.

Sp. 82. quadrialbatus. *Niger femoribus tibiisque rufis: mas orbitis internis oculorum albis; foemina antennarum annulo pallido.* (Long. corp. 4—5 lin.; Exp. Alar. 9—10 lin.)

Ic. quadrialbatus. *Gravenhorst*, i. 452.—*Steph. Nomen*. 2d edit. col. 133.

Black: palpi reddish; facial orbits white in the male; antennæ of the female

more or less ferruginous beneath, with the 12th to 15th or 18th joints pale or white above, or ferruginous, with the rest of the antennæ black; thorax of the male frequently with a minute white dot beneath the wings; scutellum for the most part entirely white, but in the female with the tip only; abdomen with the 2nd and 3rd joints finely punctured and somewhat opaque, of the female with the margins sometimes obscurely chestnut, or entirely dull bay; the 6th with a spot, and the 7th above, entirely white; legs red; coxæ and trochanters, and also the apex of the hinder tibiæ and tarsi, black; wings smoky-hyaline, or yellowish, the stigma red or dusky, costa and scales black; cellule somewhat 5-angular.

Not common: found in June near London, and at Darenth.

Sp. 83. *quæstorius*. *Niger, femoribus tibiisque rufis, puncto dorsali 3-um ultimorum segmentorum annuloque antennarum albis.* (Long. corp 5 lin.; Exp. Alar.  $8\frac{1}{2}$  lin.)

Ic. *quæstorius*. *Linné.—Steph. Catal. 347. No. 4344.*

Black: antennæ involuted at the apex, with about the 9th to 14th joints more or less white above and on the sides; thorax with a small white dot beneath the wings; metathorax with 2 slightly acute tubercles; scutellum white; abdomen with the 3 terminal segments having a whitish-yellow spot on the back; ovipositor scarcely exerted; legs pale red; coxæ and trochanters, and tips of the hinder tarsi and tibiæ black; wings smoky-hyaline, with the stigma ferruginous, costa and scales black; cellule 5-angular.

Scarce: taken in the north of England.

Sp. 84. *cingulipes*. *Niger, orbitis oculorum verticis annuloque antennarum et tibiæ albis: mas facie albâ maculâ nigrâ.* (Long. corp.  $6\frac{1}{2}$  lin.; Exp. Alar. 10 lin.)

Ic. *cingulipes*. *Steph. Nomen. 2d edit. Appendix.*

Black: palpi pale; vertical orbits broadly white, and in the male the face and inner ones, the face having a large black patch; thorax of the males with a white dot before the wings; scutellum white; abdomen rather slender, of a brownish-black, with a bluish tinge, the 2 last segments with a white spot on the back; legs black; 4 anterior femora in the male ochreous-white in front and at the extreme tip; tibiæ also white in front, with a fuscous cloud outside towards the apex; in the female the 4 anterior femora are whitish at the extreme tips, and the 4 tarsi black, with a white ring towards the base, the lower portion of the inner edge also white; posterior legs in both sexes black, with a broad white ring towards the base of the tibiæ; 4 anterior tarsi pale; antennæ long and slender, porrect in the male, with about the 12th to 15th joints white above, and in the female incurved, with from the 7th to 14th joints white above and on the sides; wings somewhat smoky-hyaline, with the stigma ferruginous; costa and scales rusty-brown; cellule 5-angular.

Taken, long since, at Darenth wood in June; apparently very rare.



Sp. 85. *leucomelas*. *Niger, orbitis oculorum verticis albis: mas orbitis oculorum facialibus, fœmina annulo antennarum, albis.* (Long. corp. 5— $\frac{1}{4}$  lin.; Exp. Alar. 10—11 lin.)

Ic. *leucomelas*. *Gmelin.—Steph. Nomen. 2nd edit. col. 133.*

Black: vertical orbits very broadly white in the female, and the facial ones white in the male; antennæ of this sex with the basal joint white below; female with the 9th to 16th, more or less, white above and on the sides; thorax of the male with a white dot before and another below the wings; scutellum white, of the female sometimes reddish at the base; abdomen finely punctured, of the female with a dorsal white spot on the 6th and 7th segments, of the male with the margin of the 6th and entire back of the 7th white; legs black, anterior femora below entirely and middle ones at the apex, and the 4 anterior tibiæ beneath straw-coloured in the male; anterior tarsi slightly so, and the middle fuscous; of the female the anterior tibiæ are rusty or fuscous within; wings smoky-hyaline; stigma, costa, and scales black; cellule nearly 5-angular.

Not very abundant: taken within the metropolitan district in June, and in Devonshire.

Sp. 86. *microcephalus*. *Niger, antennarum annulo orbitisque facialibus tenuissimis albis, capite parvo.* (Long. corp. 6—7 lin.; Exp. Alar. 10—12 lin.)

Ic. *microcephalus*. *Steph. Nomen. 2d edit. Appendix.*

Black: head very small; inner orbits faintly white; antennæ with the 10th to 16th joints, more or less, white; thorax immaculate; scutellum entirely white, or at the tip only in the female; abdomen slender and glossy in the male, wider and somewhat opaque in the female, the 2 last segments with a white dorsal spot; legs black, anterior tibiæ slightly ferruginous in front; wings hyaline, stigma red, costa and scales black; cellule somewhat 3-angular.

Found near London and in Scotland, in June.

Sp. 87. *computatorius*. *Niger, antennarum annulo albo, tibiis posticis versus basin ferrugineo fuscis.* (Long. corp. 5— $6\frac{1}{2}$  lin.; Exp. Alar. 12—14 lin.)

Ic. *computatorius*. *Müller, 1769.—Steph. Nomen. 2d edit. col. 133.*

Black: antennæ brownish beneath, with the 9th to 16th joints, more or less, white; frontal orbits sometimes obscurely reddish; thorax occasionally with a white dot beneath the wings; scutellum white; abdomen with the 2nd and 3rd segments finely punctured and somewhat opaque, sometimes with the extreme margins slightly chestnut, and the 2nd very rarely entirely dull bay black, the 6th and 7th with a white dorsal spot, the 5th occasionally with a minute one; legs dull black, anterior femora ferruginous or ochreous at the tip, the tibiæ beneath the same; middle with the inner edge of the tibiæ, at times the tip of the femora and the tarsi ferruginous; posterior with the tibiæ rusty-brown on the outer edge towards the base; wings smoky-hyaline, stigma red or fuscous, costa the same; scales black; cellule 5-angular.

Not very common : found in June at Birch wood ; also in the north of England.

Sp. 88. *molitorius*. *Niger, antennarum et tiliarum annulo albo : mas orbitis oculorum frontalibus albis.* (Long. corp.  $4\frac{1}{2}$ — $6\frac{1}{2}$  lin. ; Exp. Alar. 8— $10\frac{1}{2}$  lin.)

Ic. *molitorius*. *Linné.—Steph. Catal. 346. No. 4341.*

Black : male with the frontal orbits white ; antennæ with the 7th to 16th joints, more or less, white, with a brown dot beneath, or in the female dull saffron ; thorax of the male occasionally with a white dot beneath the wings ; scutellum white ; abdomen slightly glossy, with the 2nd and 3rd segments of the female somewhat opaque, the femora sometimes black-bay ; the remainder more glossy, purplish, the 6th and 7th with a white dorsal spot ; legs with the anterior femora white or rusty at the apex, the tibiæ all white, or ochreous, with the extreme base black, or dusky, and the apex black, anterior sometimes rusty at the apex, and in the male with the inner edge entirely white ; tarsi ferruginous, posterior sometimes with the tips of the joints dusky ; wings smoky-hyaline, with the stigma red, or fuscous ; costa and scales fuscous ; cellule 5-angular.

Not very uncommon within the metropolitan district in June ; found also in Yorkshire.

§ V. *Scutellum* pale or with pale marks : *abdomen* of 3 colours, usually black, red, and white ; or yellow.

Sp. 89. *extensorius*. *Niger, annulo antennarum albo, segmentis 2 et 3 rufis, tibiis rufis, posticis apice nigro : mas femoribus anterioribus rufis.* (Long. corp. 5—6 lin. ; Exp. Alar.  $7\frac{1}{2}$ — $8\frac{1}{2}$  lin.)

Ic. *extensorius*. *Linné.—Steph. Catal. 349. No. 4434.*

Black : inner orbits of the female more or less distinctly yellowish or reddish ; antennæ involuted, with about the 8th to 16th or 17th joints white, beneath red or fuscous, the remainder rusty-brown ; thorax with a white dot beneath the wings, and in the female occasionally below them ; scutellum yellowish, white in the female ; abdomen more slender in the male than in the female, the 2nd and 3rd segments red, the 3rd sometimes with its edge dusky ; the 4th to the 7th in the male with a white spot on the back, and occasionally in the female, but in this sex the spot on the 4th and 5th is sometimes wanting ; legs red, with the coxæ and trochanters black ; in the male the femora and tibiæ are red, the tips of the hinder pair black, with dusky tarsi ; in the female the femora are generally black, with the 4 anterior more or less red, the tibiæ red, anterior palest, middle sometimes black at the tip, hinder always with the apex black ; occasionally all are yellowish beneath ; tarsi red, posterior dusky ; wings yellowish-hyaline, stigma fulvous or red, costa and scales fuscous ; cellule 5-angular.

Varies considerably : the anterior femora, or all of them, are sometimes entirely rufous, and the abdomen has occasionally a reddish spot on the 1st or 4th segments, and the base of the 3rd is at times black.



Extremely abundant, throughout the metropolitan district, in the spring and summer; occurring in plenty at the roots of trees, during the winter: also found in Shropshire and in Scotland.

Sp. 90. *confusorius*. *Niger, segmentis 2 et 3 rufis, tibiis flavis apice obscuro, antennarum annulo albo.* (Long. corp. 4—7 lin.; Exp. Alar.  $7\frac{1}{2}$ —9 lin.)

Ic. *confusorius*. *Gravenhorst.—Steph. Catal. 349. No. 4438.*

Black; palpi and mandibles occasionally red; inner orbits reddish; antennæ involuted, with the 8th to 16th joints more or less white, red or brown beneath; thorax very rarely with a white dot beneath the wings; scutellum white; abdomen ovate, with the 2nd and 3rd segments red or dull saffron, sometimes with the back yellowish; the 5th rarely entirely black, but marked with a white dot or spot, the 6th and 7th always with a white spot; legs with the anterior femora rarely entirely red, with a fuscous spot at the base, generally black, with the tip red, middle the same, posterior black, sometimes red at the base; 4 anterior tibiæ yellow or ochreous, reddish within, the anterior pair with the apex reddish, and the 2nd pair with it brownish; posterior yellow, the extreme base red or fuscous, the apex brown or black, sometimes edged with red; tarsi red, posterior occasionally black at the tip; wings yellowish-hyaline, stigma red or saffron, costa and scales fuscous, the last sometimes red; cellule 5-angular.

The tibiæ are sometimes reddish-yellow, with the apex of the hinder pair black.

Found with the preceding, and nearly as abundant.

Sp. 91. *silaceus*. *Niger, segmentis 2 et 3 silaceis, pedibus rufis, coxis et trochanteribus nec non femoribus posticis nigris, tibiis flavicantibus, antennarum annulo albo.* (Long. corp. 5 lin.; Exp. Alar.  $9\frac{1}{2}$  lin.)

Ic. *silaceus*. *Gravenhorst, i. 279.—Steph. Nomen. 2d edit. col. 133.*

Black: antennæ with the 1st to 7th joints dull rusty beneath, the 9th to 14th generally white, red beneath; scutellum white; abdomen with the 2nd and 3rd segments pale red, yellow towards the apex, the 4th with a white dot, the 2 following with a white spot; legs with the coxæ and trochanters black; femora red, posterior from the middle to the apex black; tibiæ yellowish, 4 anterior beneath and at the apex red, posterior black at the tip; tarsi red, posterior fuscous at the apex; wings smoky-hyaline, with the stigma red, costa and scales fuscous.

Found in June, near London: very rare.

Sp. 92. *ammonius*. *Niger, antennis 3-coloribus, segmentis 2 et 3 tibiisque rufis; segmentis 6 et 7 puncto dorsali albo.* (Long. corp. 5 lin.; Exp. Alar.  $9\frac{1}{2}$  lin.)

Ic. *ammonius*. *Gravenhorst.—Steph. Catal. 349. No. 4439.*

Black: inner orbits blood-red; antennæ with the 1st to 7th joints of the female rusty-red; of the male with the 1st joint black, the 2nd to 7th rusty or brown, 7th or 8th to 13th white, reddish beneath, remainder fuscous; thorax

of the male occasionally with 2 white dots at the base of the wings, or 1 obscure one beneath; scutellum white; abdomen with the 2nd and 3rd segments red, 6th and 7th with a white dorsal spot; legs black, with the tips of the femora red, posterior entirely black in the male; 4 anterior tibiæ of the female at the apex rusty-red; posterior of the male red, the apex black, sometimes yellowish beneath; of the female red, the middle yellowish, the apex fuscous; tarsi red; wings yellowish-hyaline, stigma and costa red; scales dull straw-colour, or reddish.

Not common: taken occasionally in the vicinity of London, in June.

Sp. 93. *stramentarius*. *Niger, segmentis 2 et 3 tibiisque flavis, his apice obscuro, annulo antennarum albo.* (Long. corp. 6—7 lin.; Exp. Alar. 12 lin.)

Ic. *stramentarius*. *Gravenhorst.—Steph. Catal. 349. No. 4440.*

Black: inner orbits yellowish, or reddish; antennæ with the 8th to 16th joints, more or less, white or yellowish, reddish or straw-coloured beneath; thorax occasionally with a streak beneath the scutellum, or 2 dots at the base of the wings, whitish or yellow; scutellum the same; abdomen with the 2nd and 3rd segments yellow, the 5th, 6th, and 7th, with a yellow spot on the back; legs black, with the 4 posterior at the apex ferruginous or dull straw; tibiæ yellow, 4 anterior generally red at the apex; the middle pair sometimes black at the tip; posterior with the apex black, the base sometimes ferruginous; tarsi ferruginous, hinder pair with the tips of the joints sometimes black; wings rather yellowish-hyaline, stigma pale saffron, costa reddish, and scales red or brown.

Rather scarce: found in June and July on flowers, near London, and in the north of England.

Sp. 94. *terminatorius*. *Niger, segmentis 2 et 3 flavo-stramineis, incisurâ nigrâ, tibiis flavo stramineis apice obscuro, annulo antennarum albo.* (Long. corp. 6—6½ lin.; Exp. Alar. 11½ lin.)

Ic. *terminatorius*. *Gravenhorst.—Steph. Catal. 349. No. 4441.*

Black: palpi generally rusty at the apex, and mandibles red; frontal orbits faintly yellowish or ferruginous; antennæ with the 9th to 16th joints, more or less, dull white, rusty beneath; scutellum straw yellow; abdomen with the 2nd and 3rd segments yellow or pale saffron, with the incisure black; 5th, 6th, and 7th with a yellow dorsal spot; legs with the 4 anterior femora more or less red or ferruginous at the apex; tibiæ yellow, sometimes mixed with ferruginous, the 4 anterior with the apex fulvous or rusty, the posterior with the tip black; tarsi reddish or yellowish; wings yellowish-hyaline, the stigma and costa pale saffron, scales red.

Not uncommon within the metropolitan district, towards the end of the summer.

Sp. 95. *cerinthius*. *Niger, segmentis 2 et 3 flavis, incisurâ nigrâ, tibiis flavis*  
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*apice obscuro, annulo antennarum albo.* (Long. corp. 5—6 lin.; Exp. Alar. 9½ lin.)

Ic. *cerinthius*. Gravenhorst.—Steph. Catal. 349. No. 4442.

Black: frontal orbits very obscurely blood-red; antennæ rather slender, the 11th to 16th joints white, dull saffron beneath; scutellum white; abdomen ovate, the 2nd and 3rd segments yellow, with the incisure fuscous or black, the last 2 with a yellow dorsal spot; legs with the anterior femora at the tip and lower edge, and the middle pair at the apex, red; tibiæ yellow; 4 anterior reddish, and the posterior black, at the tip; tarsi reddish; wings yellowish-hyaline, with the stigma and costa dull red, scales fuscous.

Rare: found near London, in August.

Sp. 96. *fulvoscutellatus*. Niger, *scutello fulvo, segmentis 2 et 3, tarsis anterioribus tibiisque rufis, posticis apice nigro, annulo antennarum rufo-flavescente.* (Long. corp. 6 lin.; Exp. Alar. 10 lin.)

Ic. *fulvoscutellatus*. Steph. Nomen. 2d edit. col. 133.

Black: palpi fuscous; antennæ with the 9th to 16th joints reddish-yellow above, red beneath; thorax with a reddish streak beneath the wings; scutellum fulvous; abdomen with the 2nd and 3rd segments tawny-red; the middle of the edge of the 5th, and a spot on the 6th and 7th, white; legs with the anterior femora fulvous, the apex of the middle pair rufous, the 4 anterior tibiæ and tarsi pale red, the hinder pair the same, with the apex black, and their tarsi with the tips of each joint dusky; wings smoky-hyaline, the stigma pale saffron, costa black, scales ferruginous.

Taken at Birch wood in May.

Sp. 97. *cædator*. Niger, *antennis 3-coloribus, maculâ faciali et orbitis oculorum rubricosis; segmentis 2 et 3 rufis, ultimis albomarginatis, femoribus anterioribus tibiisque rufis.* (Long. corp. 5 lin.; Exp. Alar. 9½ lin.)

Ic. *cædator*. Gravenhorst, i. 285.—Steph. Nomen. 2d edit. col. 133.

Black: palpi pale red; inner orbits of the face reddish; antennæ with the apex involuted, the 1st to 14th joints red, the 11th to 14th, more or less, yellowish or whitish above, the remainder fuscous, ferruginous beneath, the terminal ones entirely fuscous; thorax with the margin of the collar and a dot beneath the wings whitish; scutellum white; abdomen with the 2nd and 3rd joints red, the 4th whitish on the margin, the 5th with the margin white, and the 6th and 7th entirely of that hue above; legs with the 4 anterior femora entirely, and the extreme base of the posterior, red; tibiæ red, with the tip of the hinder black; tarsi red; wings smoky-hyaline, with the stigma, costa, and scales red.

Apparently very rare: found in July near London, and in Norfolk.

Sp. 98. *raptorius*. Niger, *antennis 3-coloribus, segmentis 2 et 3 rufis, 5-7 maculâ dorsali albâ, tibiis rufis.* (Long. corp. 4—6½ lin.; Exp. Alar. 8—11 lin.)

*Ic. raptorius.* *Linné.*—*Donovan*, v. ii. pl. xlii. f. 2. (4)?—*Steph. Catal.* 349. No. 4433.

Black: inner orbits occasionally reddish; antennæ with the 2 basal joints black, the 3rd to the 8th or 10th red, or ferruginous, 9th to 15th, more or less, whitish above, yellowish in the males; red or rusty beneath; scutellum white or yellowish; abdomen with the 2nd and 3rd segments red, the 5th to 7th with a white spot or transverse marginal line; legs with the femora of the male black, the 4 anterior red at the tip, of the female black, the 4 anterior at the apex and generally beneath red, posterior at times red at the base; tibiæ red, posterior mostly, and sometimes the middle black or dusky at the apex; tarsi red; posterior in the female occasionally with the tips of the joints dusky; wings yellowish-hyaline, stigma pale red; costa and scales fuscous or reddish.

The male has the abdomen longer and more slender than the female, and has frequently a white dot on its 4th segment.

Abundant within the metropolitan district towards the end of the summer; common also at the roots of trees during the winter.

*Sp. 94. gracilicornis.* *Niger, antennis 3-coloribus, segmentis 2 et 3 rufis, femoribus tibiisque rufis, posticis apice nigris: mas orbitis oculorum internis albis.* (Long. corp. 5—6 lin.; Exp. Alar. 10—11½ lin.)

*Ic. gracilicornis.* *Gravenhorst*, i. 290.—*Steph. Nomen.* 2d edit. col. 133.

Black: male with the inner orbits white; antennæ with the basal joint beneath white, the 2nd black, the remainder ferruginous, of the female with the first 2 black, the 7 following red, the 10th to 15th whitish, the following black, the 8th to 10th being sometimes fuscous; scutellum yellow; abdomen with the basal segment sometimes chestnut at the apex, the 2 following red, the 4th generally more or less red on the sides, with a marginal white dot, or reddish edge, the remainder with a white spot; legs red, coxæ and trochanters black; posterior femora with the apex black, and the 4 anterior ones sometimes more or less dusky externally; hinder tibiæ black at the apex; posterior tarsi dusky, with the base occasionally red; wings brownish-hyaline, with the stigma dull saffron, or fuscous, costa and scales brown; cellule 5-angular.

Much less abundant than the foregoing, but still not uncommon within the metropolitan district, towards the end of summer.

*Sp. 100. quadrinotatus.* *Niger, antennis 3-coloribus, segmentis 2 et 3 croceis, 4-7 maculâ magnâ dorsali albâ, pedibus rufis, geniculis et tarsis posticis tibiarumque posticarum apice nigris.* (Long. corp. 4 lin.; Exp. Alar. 7 lin.)

*Ic. quadrinotatus.* *Steph. Nomen.* 2d edit. Appendix.

Black: antennæ with the 2 basal joints totally black, the 8 following red above and below, 9th to 16th white above and reddish below, the remainder blackish, with the terminal ones black; thorax immaculate; scutellum yellow; abdomen with the 2nd and 3rd segments pale saffron, the remainder



each with a large triangular white spot; legs with the 4 anterior femora, tibiæ, and tarsi pale red, the inner base of the first blackish; the posterior femora red, with the extreme tip black, and the hinder tibiæ also red, with the apex broadly black; hinder tarsi black; wings dusky-yellowish-hyaline, with the stigma and costa reddish-brown, scales black.

From Mr. Haworth's collection.

Sp. 101. *pallidicornis*. *Niger, segmentis 2 et 3 rufis, 3 nigro maculato, ultimis albomarginatis, pedibus fulvis, coxis nigris, antennis flavis apice fusco.* (Long. corp. 4—5½ lin.; Exp. Alar. 8—9 lin.)

Ic. *pallidicornis*. *Gravenhorst, i. 294.—Steph. Nomen. 2d edit. col. 133.*

Black: mouth of the female dull red, with the mandibles black at the tip, of the male dull straw; orbits in this sex broadly pale yellow on the face; antennæ with the 2 basal joints red, 9 following pale yellow, beneath dull saffron or rusty, remainder rusty-red, dusky towards the apex, and in the female entirely black; thorax of the male with 2 yellow dots at the base of the wings; scutellum yellow; abdomen with the 2nd segment of the male dull red, with a yellow spot on the sides; of the females red, with the margin, or the base, obscure or black, 3rd of the male red, with a black margin, of the female red or brown, with the base and apex black, or black with a large lateral chestnut-bay blotch, 6th and 7th of the male pale yellow on the back, 5th to 7th of the female with the dorsal edge white; legs with the coxæ and trochanters at the base black; femora dull saffron, posterior rusty at the apex; tibiæ yellowish, posterior rusty towards the apex, and the extreme tip in the male black; tarsi red, claws black; wings yellowish-hyaline, with the stigma red, costa and scales reddish, or brown.

Rare: taken at Coombe wood and at Richmond Park, in June.

Sp. 102. *sanguinatorius*. *Niger, antennarum annulo et segmentorum ultimorum margine albis, segmentis 2 et 3 tibiis tarsisque rufis.* (Long. corp. 6 lin.; Exp. Alar. 11 lin.)

Ic. *sanguinatorius*. *Gravenhorst, i. 295.—Steph. Nomen. 2d edit. col. 133.*

Black: palpi dull red; mandibles chestnut; frontal orbits generally chestnut; antennæ with the apex involuted, 2 basal joints black, 3rd to 8th fuscous or rusty, 9th to 14th whitish, yellowish beneath, the following fuscous or black; thorax with a pale yellow line or streak below the wings; scutellum pale yellow; abdomen with the 2nd and 3rd segments red, 4th to 6th with a white or yellow dorsal spot, 7th with a whitish yellow spot; legs with the 4 anterior femora red at the tip; tibiæ red, anterior paler or yellow beneath; tarsi red; wings yellowish-hyaline, with the stigma red, costa and scales brown or saffron.

The white ring of the antennæ is sometimes wanting.

Not uncommon within the metropolitan district in July; found also in Salop.

Sp. 103. *primatorius*. *Niger, annulo antennarum et maculâ coxarum posticarum albis; basi tiliarum flavâ, segmentis 2 et 3 rufis.* (Long. corp. 10—11½ lin.; Exp. Alar. 15—16 lin.)

Ic. *primatorius*. *Forster.*—*Steph. Catal.* 349. No. 4427.

Black: antennæ with the apex involuted, with the 8th to 10th joints, more or less, yellowish-white; metathorax with 2 very short obtuse spines; scutellum also yellowish-white; abdomen a little wider than the thorax, 2nd and 3rd segments externally red or bay, 4th sometimes reddish at the base, with a marginal white dot, 5th to 7th with a yellowish-white dorsal spot; legs black, with a large white spot on the upper external edge of the hinder coxæ, smaller or minute on the 4 anterior ones; tibiæ yellow, anterior fuscous or rusty at the apex, 4 posterior with the base and apex brown or black; 4 anterior tarsi more or less ferruginous, posterior dusky; wings rusty-brown-hyaline, stigma ferruginous, costa black; scales for the most part entirely white.

Rather common in the spring within the metropolitan district, about Hertford, &c.

Sp. 104. *flavolineatus*. *Niger, facie et lineâ ante alas flavis, segmentis 2-4 pedibusque dilute croceis, trochanteribus nec non femorum posticorum geniculis nigris.* (Long. corp. 10 lin.; Exp. Alar. 17 lin.)

Ic. *flavolineatus*. *Gravenhorst*, i. 300.—*Steph. Nomen.* 2d edit. col. 133.

Black: mouth and face yellow, or pale saffron, with the tip of the mandibles black; antennæ porrect, with the basal joint yellow beneath, 2nd black, following dull ferruginous, the terminal ones entirely black; thorax with a broad line on each side (the margin of the collar) before the wings, a minute one below, and another beneath the scutellum yellowish; scutellum yellow; abdomen as wide as the thorax, with the extreme edge of the basal segment reddish; 3 following segments entirely yellowish-red, with the incisures reddish, 5th and 6th with a pale yellowish streak, 7th with a longitudinal yellow line; legs yellow, coxæ black, with an ochreous spot; trochanters black, posterior fuscous, with the extreme apex fuscous or black; wings smoky-hyaline, with the stigma rusty or saffron, costa brown, scales white.

I suspect this splendid insect, of which I have only seen my own specimen, to be the male of the foregoing species: it is, however, very dissimilar.

Very rare: taken at the end of May in a garden at Hertford.

Sp. 105. *sarcitorius*. *Niger, annulo antennarum puncto infra alas segmentoque 6-to albis, segmentis 2 et 3 rufis, hoc basi nigro, tibiis femoribusque rufis, posticis apice nigro.* (Long. corp. 4—5½ lin.; Exp. Alar. 7—10 lin.)

Ic. *sarcitorius*. *Linné.*—*Steph. Catal.* 342. No. 4430.

Black: frontal orbits generally obscurely red; antennæ with the 2 basal joints black, sometimes rusty beneath, 3rd to about the 9th either entirely ferruginous, or fuscous above, sometimes black; 8th to 16th, more or less, yellowish-white, reddish beneath; thorax with a white dot beneath the



wings ; scutellum white ; abdomen with the 2nd and 3rd segments red, base of the 3rd black, the 6th white above ; legs red, coxæ and trochanters black ; posterior with the tips of the femora and of the tibiæ black ; wings yellowish-hyaline, stigma reddish ; costa ferruginous ; scales fuscous, occasionally ferruginous.

Abundant in the winter and spring throughout the metropolitan district.

Sp. 106. *vadatorius*. *Niger*, *segmentis 2 et 3 rufis incisurâ nigrâ*, 4-7 *albo marginatis*, *femoribus tibiisque rufis* ; *posticorum apice nigro* : *mas orbitis oculorum internis et antennarum basi flavis* : *fœmina antennarum annulo albo*. (Long. corp. 5—7 lin. ; Exp. Alar. 10 lin.)

Ic. *vadatorius*. *Illiger*.—*Steph. Catal.* 349. No. 4429.

Black : male with the face white, with a broad black streak, or black, with the inner orbits and a spot on the side of the clypeus white or yellowish ; mouth reddish or yellowish ; female with the mandibles red in the middle, the inner orbits dull ferruginous ; antennæ with the 2 basal joints black, red beneath, or entirely red ; the 13 following, or the greater portion, yellowish, remainder fuscous ; of the female involuted, with about the 6th to the 12th joints white, rusty beneath ; thorax with a streak or dot beneath the wings, and in the male with a line before them ochreous ; metathorax with 2 very obtuse spines ; scutellum ochreous ; abdomen with the 2nd and 3rd segments red, the extreme margin and also the base of the 3rd black, the margins of the others whitish or glaucous, the 6th and 7th sometimes entirely black in the females ; legs with the coxæ and trochanters black, the last in the male mostly red at the apex ; femora and tibiæ red, posterior black at the tip ; tarsi red, posterior more or less dusky ; wings yellowish-hyaline, stigma dull saffron, costa rusty, scales the same or whitish.

Scarce : found near London in June.

Sp. 107. *concinctorius*. *Niger*, *annulo antennarum albo*, *collaris margine antice tibiisque flavis*, *his posticis apice nigro*, *segmentis 2 et 3 rufis*, *hoc basi nigro*, *orbitis oculorum verticalibus pallidis*. (Long. corp. 7 lin. ; Exp. Alar. 10½ lin.)

Ic. *concinctorius*. *Steph. Nomen.* 2d edit. *Appendix*.

Black : palpi fulvous ; frontal orbits pale yellowish ; antennæ with the 8th to 16th joints white above, red beneath ; anterior margin of the collar yellow ; scutellum white ; abdomen with the 2nd and 3rd segments pale red, the base of the 3rd black, the apex of the last 3 with a white spot ; legs with the femora black, the anterior pair reddish at the apex ; tibiæ pale reddish-yellow, the tip of the hinder pair broadly black ; tarsi yellow, the posterior pair with the tips of the joints black ; wings yellowish-hyaline, with the costa, stigma, and scales reddish-yellow.

Taken near London, but very rare : a splendid species.

Sp. 108. *Sartorius*. *Niger*, *antennarum annulo*, *puncto ad radicem alarum mar-*

*ginibusque segmentorum 4-7 albis, segmentis 2 et 3 rufis, summo margine nigris.* (Long. corp.  $5\frac{1}{4}$ —7 lin.; Exp. Alar. 10—11 lin.)

Ic. Sartorius. *Gravenhorst*, i. 308.—*Steph. Nomen*. 2d edit. col. 134.

Black: antennæ involuted, with the 7th to 15th joints, more or less, dull white above; thorax silky, with 2 whitish dots at the base of the wings, and a minute one before them; scutellum white; abdomen with the 2nd and 3rd segments pale saffron or red, with the extreme margins black, 4th and 5th with the dorsal margin, 6th and 7th with a dorsal spot, white; legs black, the anterior femora sometimes rusty at the apex, tibiæ and tarsi pale or ochreous beneath, posterior tibiæ generally with a pale spot beneath; wings smoky-hyaline; stigma pale saffron, costa and scales black.

Not very uncommon within the metropolitan district in June and July.

Sp. 109. *atripes*. *Niger, antennis subpallide annulatis, puncto infrà alas, marginibusque segmentorum 6 et 7 albis; segmentis 2 et 3 rufis.* (Long. corp. 6 lin.; Exp. Alar. 10 lin.)

Ic. *atripes*. *Gravenhorst*.—*Steph. Catal.* 349. No. 4432.

Black: antennæ with the 8th to 14th joints ferruginous beneath; thorax with a white dot below the wings; scutellum white; abdomen with the 2nd and 3rd segments pale red, the extreme margin of the 3rd red, the 6th and 7th with a transverse marginal white line, abbreviated towards the sides; legs with the anterior tibiæ and tarsi red, fuscous above, the middle dull ferruginous, above black; wings smoky-hyaline, with the stigma red, costa and scales brown.

Found, but very rarely, near London.

Sp. 110. *uniguttatus*. *Niger, puncto dorsali segmenti 7-imi albo; mas segmento 2 toto nec non 3 basi rufis: fœmina segmentis 2 et 3 rufis.* (Long. corp. 6 lin.; Exp. Alar.  $9\frac{1}{2}$  lin.)

Ic. *uniguttatus*. *Gravenhorst*, i. 310.—*Steph. Nomen*. 2d edit. col. 134.

Black: thorax of the male with a white dot below the wings, and sometimes another before them; scutellum white; abdomen with the 2nd segment red, the 3rd in the male black, with the base and sides red, in the female red, with sometimes the margin black; the 7th with a small dorsal white spot, occasionally nearly obsolete in the male; legs of the female with the anterior femora beneath rusty-red; of the male, the anterior red, with the coxæ and trochanters black, or black, with the tibiæ beneath and tips of the femora yellowish, the middle either black, or with the apex of the femora and outer edge of the tibiæ reddish; wings smoky-hyaline, with the stigma dusky or reddish, costa and scales black; the last in the male with a white dot.

Also rare: I have an example which was taken near London in June.

Sp. 111. *ornatorius*. *Niger, segmentis 2 et 3 rufis, marginibus nigris, ultimis*



*albo marginatis, tibiis stramineo-flavis, posticis apice nigro.* (Long. corp.  $6\frac{1}{2}$ — $7\frac{3}{4}$  lin.; Exp. Alar. 11—12 lin.)

Ic. ornatorius. Panzer.—Ic. negatorius. Steph. Catal. 348. No. 4409.

Black: inner orbits and mandibles more or less distinctly yellow or ferruginous; thorax with 2 white streaks or dots at the base of the wings; scutellum ochreous-white; abdomen with the 2nd and 3rd segments pale red or saffron, with the edges more or less black, the 2 following with the margins, and the 6th and 7th with a spot, white; legs with the 4 anterior femora ochreous or ferruginous at the tips, the tibiæ and tarsi yellow, the apex of the latter frequently dusky, the hinder pair being nearly black, and the hinder tibiæ having the apex of that colour; wings yellowish-hyaline, with the stigma pale saffron, costa brown, and scales black; cellule 5-angular.

Rare: found occasionally in the spring near Hertford, and in Norfolk; also in Salop.

Sp. 112. laboratorius. *Niger, facie thoraceque flavo maculatis, segmentis 2 et 3 croceis, 2-7 margine flavo, femoribus dilute rufis, tibiis flavicantibus posticarum apice nigro.* (Long. corp. 6 lin.; Exp. Alar.  $10\frac{1}{2}$  lin.)

Ic. laboratorius. Panzer.—Steph. Nomen. 2d edit. col. 134.

Black: labrum and palpi dull yellow; face the same, with a black line or spot, or black, with the inner orbits and a dot on the clypeus dull yellow; antennæ beneath with the 2 basal joints yellowish, the remainder generally ferruginous; thorax with a line beneath the scutellum, another before the wings, and at times one beneath and on the upper margin of the collar yellowish-white; scutellum also yellowish-white; abdomen with the 2nd and 3rd segments red, the 3rd to the 7th edged with whitish-yellow; legs with the 4 anterior coxæ generally with a white spot beneath; femora red, 4 anterior yellow at the tip, tibiæ and tarsi yellow or tawny, the posterior dusky at the apex; wings slightly smoky-hyaline; costa and stigma fuscous or black, scales the same, with a white dot; cellule somewhat 5-angular.

Posterior femora and tibiæ sometimes black at the apex.

Also very rare: I have twice taken it at Hertford in April.

Sp. 113. amatorius. PLATE xl. f. 1.—*Niger, annulo antennarum, segmento 2-do, tibiis et tarsis, dilute croceis, segmentis 2-7 flavomarginatis.* (Long. corp. 6—7 lin.; Exp. Alar. 11—12 lin.)

Ic. amatorius. Müller.—Ic. ambulatorius. Steph. Catal. 348. No. 4410.

Black: inner orbits yellow or whitish; antennæ with the 4th to 7th joints entirely or beneath ferruginous, the 8th to 17th, more or less, pale saffron; thorax with 2 whitish-yellow spots at the base of the wings; scutellum yellowish-white; abdomen with the 2nd segment pale saffron-yellow, the margin pale sulphureous, the following segments black, with the margin pale sulphur; legs with the 4 anterior femora at the apex generally ferru-

ginous, the tibiæ and tarsi all pale saffron ; wings yellowish-hyaline, with the stigma and costa pale saffron, the scales yellow.

This beautiful insect appears to be very rare : I remember to have seen but 4 specimens only, 2 in my own collection, and the others in those of Messrs. Davis and Newman ; it is found near London, and Fabricius describes it as a British species.

Sp. 114. *septemguttatus*. *Niger, orbitis internis oculorum, punctis ad alarum radicem, maculæque segmentorum 6 et 7 albis, femoribus anterioribus apice rufis, tibiis rufis, posticarum apice nigro.* (Long. corp.  $5\frac{1}{2}$  lin. ; Exp. Alar. 9 lin.)

Ic. *septemguttatus*. *Gravenhorst, i. 320.—Steph. Nomen. 2d edit. col. 134.*

Black : palpi and middle of the mandibles red ; clypeus with a double straw-coloured spot, and inner orbits whitish ; basal joint of the antennæ beneath white ; thorax with a dot before the wings, a streak below them, and the scutellum white ; abdomen with the 2nd and 3rd segments red, the 6th with a dorsal spot, and the 7th entirely white ; legs with the 4 anterior femora beneath and at the tip red ; tibiæ red, the posterior black at the tip, tarsi red, hinder dusky at the apex ; wings smoky-hyaline, stigma pale saffron, costa reddish, scales black.

Found, but very rarely, near London.

Sp. 115. *subcylindricus*. *Niger, abdomine subcylindrico segmentis 2 et 3 rufis, 6 et 7 maculâ albâ, femoribus anterioribus tibiisque rufis : fœmina antennarum annulo albo ; mas facie flavâ.* (Long. corp. 6 lin. ; Exp. Alar.  $10\frac{1}{2}$  lin.)

Ic. *subcylindricus*. *Gravenhorst, i. 321.—Steph. Nomen. 2d edit. col. 134.*

Black : antennæ with the 11th to 14th joints white above ; thorax generally with a minute white dot beneath the wings ; scutellum white ; abdomen rather narrow, somewhat cylindric, the 2nd to 4th segments of equal width, the 2nd and 3rd red, the 6th and 7th with a white dorsal spot ; 4 anterior legs red, with the coxæ and trochanters and base of the middle femora black ; posterior black ; tibiæ and tarsi red, the apex of the first dusky ; wings smoky-hyaline, with the stigma red, costa fuscous, scales rufescent.

Taken near London, very rarely.

Sp. 116. *punctus*. *Niger, orbitis internis oculorum punctis duobus ad radicem alarum, punctoque segmentorum ultimorum, albis, segmentis 2 et 3, nec non lateribus aut basi 4-ti, rufis, tibiis anticis stramineis.* (Long. corp.  $5\frac{1}{2}$  lin. ; Exp. Alar. 10 lin.)

Ic. *punctus*. *Gravenhorst, i. 325.—Steph. Nomen. 2d edit. col. 134.*

Black : palpi reddish ; inner orbits white ; antennæ with the basal joint whitish beneath ; thorax with two indistinct streaks or dots at the base of the wings ; scutellum white ; abdomen thickly punctured, basal segment with its apex chestnut, 2nd and 3rd dull red, 4th reddish on the sides, 5th entirely black, the following with a white marginal dot, and the 7th entirely



white above; legs with the 4 anterior tarsi and tibiæ pale straw-colour, the latter a little dusky without towards the tip, the femora black, pale ferruginous within; posterior femora black, their tibiæ bright ferruginous, dusky towards the tip; wings slightly smoky-hyaline, stigma, costa, and scales black.

Very rare: I have a specimen that was taken near London.

Sp. 117. *iocerus*. *Niger, facie flavá, maculá nigrá, antennis infra rufis, ano albomaculato, segmentis 2 et 3 tibiisque rufis, harum posticis apice nigro.* (Long. corp. 5—6 lin.; Exp. Alar. 10—11 lin.)

Ic. *iocerus*. *Gravenhorst*, i. 326.—*Steph. Nomen*. 2d edit. col. 134.

Black: mouth and face yellowish-white, with a large black patch, rarely immaculate, or black, with the orbits above white; mandibles black at the tip; palpi reddish; antennæ porrect, brown-black, with the basal joint beneath yellow, the following pale ferruginous; thorax occasionally with a yellow dot beneath the wings, and a streak before them; scutellum yellow; abdomen with the 2nd and 3rd segments pale red, the following black; some, or all, of them with a whitish or yellow dark spot; legs with the 4 anterior femora within and at the apex, the tibiæ and tarsi pale saffron; posterior femora black, red at the very base; tibiæ pale saffron, with the apex more or less broadly black; base of the 1st joint of the tarsi red; wings smoky-hyaline; stigma red, costa and scales fuscous, or black.

Not very common: found in June and July near London and in Salop.

Sp. 118. *hilaris*. *Niger, antennarum annulo et segmentorum 6 et 7 margine albis, segmentis 2 et 3 totis, nec non 4 proparte rufis, femoribus anterioribus tibiisque rufis.* (Long. corp. 4—4½ lin.; Exp. Alar. 8—9 lin.)

Ic. *hilaris*. *Gravenhorst*, i. 328.—*Steph. Nomen*. 2d edit. col. 134.

Black: frontal orbits dull chestnut; antennæ slender, involuted at the apex, 9th or 10th to 15th joints white; scutellum white; abdomen rather slender and acute, the 2nd and 3rd segments red; 4th red, with the margin black, or black, with a large angular spot on each side, the 6th and 7th with the margins white; legs red, coxæ and trochanters black; posterior femora black, their tarsi ferruginous within; hinder tibiæ at the tip, and their tarsi black; wings yellowish-hyaline, the stigma pale saffron; costa and scales generally black, rarely fuscous.

More abundant than the last, but not very common; taken near London in June.

Sp. 119. *deceptor*. *Niger, segmentis 1-3 tibiisque rufis, harum posticis apice nigro; foemina antennarum annulo albo.* (Long. corp. 3—5 lin.; Exp. Alar. 5—7½ lin.)

Ic. *deceptor*. *Scopoli*, 746.—*Steph. Nomen*. 2d edit. col. 134.

Black: mandibles ferruginous; occipital orbits, and occasionally the facial

ones, more or less, distinctly white; antennæ generally reddish beneath, with the basal joint entirely black, or with a white dot beneath, of the female dull ferruginous, and the 8th to 15th joints, more or less, white above; thorax for the most part black, occasionally with a white dot beneath the wings in the male; scutellum white; abdomen with the 3 basal joints red, the peduncle generally fuscous or black, the 4th mostly with a red spot on the sides, the rest black, the 5th segment in the female often with a white marginal spot, and the 6th and 7th white on the back; legs with the femora generally black, more or less ferruginous at the tip and on the sides; tibiæ red, 4 anterior ones paler within, and the posterior black at the apex, the middle pair sometimes fuscous at the tip; tarsi red, posterior dusky; wings smoky-hyaline, with the stigma pitchy or fuscous, costa the same, and scales generally black, sometimes with a white dot in the male; cellule somewhat 5-angular.

The femora are sometimes all red, and the base of the scutellum, as well as that of the 1st segment of the abdomen, occasionally black.

Not uncommon in the vicinity of London: found also in other parts of the country, as in Norfolk, Salop, Scotland, &c.

Sp. 120. subalbellus. *Niger, segmentis 1-4 rufis, 6 et 7 albomarginatis, femoribus tibiisque rufis nigro maculatis, antennis albo annulatis.* (Long. corp. 3 lin.; Exp. Alar. 5 lin.)

Ic. subalbellus. *Gravenhorst, i. 338.—Steph. Nomen. 2d edit. col. 134.*

Black: antennæ slender, curved at the apex, the 10th to 13th joints white, fuscous beneath; scutellum white; abdomen rather slender, the 2nd to 5th segments nearly of equal width, the 1st red with a black peduncle, the 3 following entirely red, remainder black, with the margin of the 6th and 7th slightly white; ovipositor a little exerted; legs with the coxæ and trochanters black; femora red, 4 anterior with the convex side, and posterior with the apex black; tibiæ red, the posterior black at the tip; anterior tarsi red, posterior dusky; wings somewhat smoky-hyaline, stigma and costa fuscous, scales black; cellule somewhat 3-angular.

Scarce: found in June near London.

Sp. 121. hostilis. *Niger, apice scutelli, marginibusque segmentorum 4-7 albis, segmentis 1-3 femoribus et tibiis anterioribus rufis, annulo antennarum albo.* (Long. corp. 4 lin.; Exp. Alar.  $7\frac{1}{2}$  lin.)

Ic. hostilis. *Gravenhorst, i. 339.—Steph. Nomen. 2d edit. col. 134.*

Black: mandibles reddish, with the base and apex black; antennæ rather slender, curved at the apex, with the 9th or 10th to 13th joints, above and on the sides, white; thorax with a minute dot before the wings; scutellum with the apex white; abdomen ovate, rather obtuse at the tip, the 1st to 3rd segments red, the peduncle black, the remaining segments black, margined with white, and the sides of the 4th generally reddish; legs red, with the coxæ and trochanters black, the extreme base of the 4 anterior



femora and the convex side sometimes fuscous, tibiæ generally fuscous externally, the hinder tibiæ and tarsi black, the femora chestnut towards the base; wings smoky-hyaline; stigma, costa, and scales brown-black.

Not common: taken near Hornsey in April.

Sp. 122. *militaris*. *Niger, segmentis 2 et 3 rufis; fœmina antennarum annulo albo.* (Long. corp. 4 lin.; Exp. Alar.  $7\frac{1}{2}$  lin.)

Ic. *militaris*. *Gravenhorst, i. 342.—Steph. Nomen. 2d edit. col. 134.*

Black: antennæ, of the female, with the 10th to 14th joints white above and on the sides; scutellum white; abdomen with the 2nd and 3rd segments red, of the male with the margins of the 6th and 7th entirely white, of the female with a white dorsal spot on those segments; legs with the extreme tip of the anterior femora and the inner edge of the tibiæ straw-colour, the middle tibiæ within rusty-brown; wings smoky-hyaline, with the stigma, costa, and scales black or fuscous; cellule 5-angular,

Not very common; found in the spring near London, and in Salop.

Sp. 123. *motatorius*. *Niger, antennarum annulo et dorso segmenti 6-ti albis, segmentis 1-3, femoribus tibiisque rufis.* (Long. corp.  $4\frac{1}{2}$  lin.; Exp. Alar. 8 lin.)

Ic. *motatorius*. *Fabricius.—Steph. Nomen. 2d edit. col. 134.*

Black: mandibles dull ferruginous; antennæ with the apex incurved, the basal joint black, beneath ferruginous, 2nd brown, 3rd to 7th dull saffron or dusky; the 8th to 12th or 13th white, fuscous beneath, the following black; thorax cylindric; scutellum white; abdomen slender, nearly as broad as the thorax, the 1st to 3rd segments red, 4th frequently with the back reddish, 6th generally with the margin whitish, 7th with the back white; ovipositor short, exserted, black; legs black; coxæ and trochanters black, with the apex more or less red, especially of the posterior ones; wings somewhat hyaline, with the stigma dull straw, the costa and scales pitchy; cellule somewhat 5-angular.

Moderately common: taken near London about the end of May and in June.

§ VI. *Scutellum* pale: *abdomen* black, with the apex, and in general the middle also, belted or spotted with yellow, or white.

Sp. 124. *infractorius*. *Niger, segmento 2 basi, 3 basi et margine, sequentibus margine, flavis, tibiis tarsisque fulvis; mas antennis rufis, facie flavâ; fœmina antennis apice fuscis, orbitis oculorum internis flavis.* (Long. corp.  $6\frac{1}{2}$  lin.; Exp. Alar. 12 lin.)

Ic. *infractorius*. *Panzer.—Steph. Catal. 348. No. 4404.*

Black: face yellow, with a black spot, or with the inner orbits alone yellow; antennæ porrect, dull reddish, paler beneath, with the 2 basal joints black above and yellow below, or convoluted, pale saffron, with the apex brownish; thorax with a streak before and a dot below the wings, with the scutellum

yellow ; metathorax with 2 short spines ; abdomen with the base of the 2nd segment, the base and margin of the 3rd, and the margins of the rest yellow ; legs pale tawny-yellow, with the coxæ, base of the trochanters and femora in the middle black, the 4 anterior femora in the males entirely rusty-yellow ; wings yellowish-hyaline.

Very scarce : taken in June near London.

Sp. 125. *mercatorius*. *Niger, antennis rufis, orbitis internis oculorum, segmentis 2 et 3 basi, sequentibus margine, tibiis, tarsis maculâque coxarum flavis.* (Long. corp. 7 lin. ; Exp. Alar. 12 lin.)

Ic. *mercatorius*. *Fabricius*.—*Steph. Catal.* 348. No. 4408.

Black : inner orbits and a spot on the sides of the clypeus yellow ; antennæ red, with the apex brownish, the basal black, yellow beneath ; thorax with a yellow dot beneath the wings ; scutellum yellow ; abdomen with the base of the 2nd and 3rd segments, and the margins of the others yellow ; legs with a yellow spot on the coxæ, the tip of the trochanters rusty, 4 anterior femora above and at the apex, and posterior with the knees yellow ; tibiæ and tarsi pale yellow ; wings yellowish-hyaline.

Also found near London in June, but extremely rare.

Sp. 126. *xanthorius*. *Niger, segmentis omnibus flavomarginatis : mas antennis rufis, facie flavâ ; fœmina antennis tricoloribus, orbitis internis oculorum flavis.* (Long. corp. 5—7 lin. ; Exp. Alar. 10—12 lin.)

Ic. *xanthorius*. *Forster*.—*Steph. Catal.* 348. No. 4407.

Black : face yellow, with a black streak, or the inner orbits only yellow ; antennæ porrect, pale red, with the 2 basal joints black, yellow beneath, or involuted, with the 1st joint black, yellow beneath, 6th to 16th fulvous, the basal ones sometimes fuscous, and the apical ones yellowish ; thorax with the anterior edge of the collar, a streak before, and dot below, the wings yellow ; scutellum the same ; abdomen with all the segments broadly edged with light yellow ; legs with the coxæ, trochanters, and femora black ; tibiæ and the 4 anterior femora at the tip, and the hinder coxæ above with a spot, yellow ; the apex of the posterior tibiæ black ; tarsi pale orange ; wings yellowish-hyaline.

Also rare, especially the male, of which I have only seen my own specimen : found within the metropolitan district, and in other parts of England, near Carlisle and Netley, in Devonshire, &c. about June.

Sp. 127. *dimidiatus*. PLATE xxxix. fig. inf. dext.—*Niger, orbitis oculorum facialibus, antennarum basi pedibusque flavis, femorum et tibiarum posticarum apicibus nigris, segmento 2-do maculis 2-bus flavicantibus.* (Long. corp.  $5\frac{1}{2}$  lin. ; Exp. Alar.  $9\frac{1}{2}$  lin.)

Ic. *dimidiatus*. *Steph. Nomen.* 2d edit. Appendix.

Black : inner orbits broadly yellow ; antennæ with the basal half bright



yellow, the first 2 joints black above, reddish beneath; the upper portion deep black; thorax with a streak before, and a dot beneath, the wings and the scutellum yellow; abdomen with 2 dull yellowish spots on the 2nd segment, the 6th and 7th whitish-yellow, or glaucous above; legs bright yellow, with the coxæ, trochanters, and tips of the hinder femora and tibiæ black; the hinder coxæ and trochanters yellowish at the tip above; wings slightly smoky-hyaline, stigma pale saffron.

Apparently very rare; taken in the north of England.

Sp. 128. *vaginatorius*. *Niger, facie flavomaculatâ, segmentis 2, 3, 6 et 7 toto margine, 4 margine medio interrupto, flavis, femoribus tibiisque dilute croceis, posticis apice nigro.* (Long. corp. 5—6½ lin.; Exp. Alar. 10—11 lin.)

Ic. *vaginatorius*. *Linné.—Steph. Catal. 348. No. 4394.*

Black: face more or less spotted with yellow; palpi pale, with the base dusky; antennæ porrect, basal joint fuscous, remainder generally black above or reddish, and beneath red, with the 1st joint yellow; thorax with a line beneath, and a spot before, the wings, with the upper edge of the collar whitish-yellow; scutellum yellowish; abdomen with 2 or 3 yellow dots on the margin of the 1st segment, the 2 following segments with a marginal fascia, waved towards the middle, the 4th with an interrupted marginal band, the 6th with an entire fascia, and the 7th with an entire, or interrupted one, all yellowish-white; legs pale yellow; tibiæ and tarsi pale, coxæ, trochanters, apex of the hinder femora and tibiæ, and of the joints of the tarsi black; wings yellowish-hyaline.

The segments of the abdomen are less broadly edged with yellow in some examples than others, especially the 4th, in which the border sometimes disappears, and the 5th in rare instances is margined.

I know not the female of this common insect, unless it be the following.\*

Abundant in June and July throughout the metropolitan district, frequenting umbelliferous flowers, &c.: common also in other parts, as in Devonshire, South Wales, Norfolk, Scotland, &c.

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\* Although in p. 122 I stated that, in proceeding with the insects of this family, I should not materially depart from Gravenhorst's arrangement, I must here, however, necessarily do so, since that laborious writer appears, in numerous instances, to have separated the sexes from each other, and especially so in those insects which he has placed in this and the following sections; to which I shall more particularly refer when treating of them. I regret my present inability to investigate this point again practically, but I trust that after the conclusion of these Illustrations, in accordance with the proposed plan, to do so in the interim of preparing the 2 supplementary volumes, that may probably be added a few years hence, in order to correct the unavoidable errors I may have committed in so vast a field, as well as to add such novelties as may have been then discovered.

Sp. 129. *diversorius*. *Niger, metathorace bispino, orbitis oculorum internis, segmentis 2 et 3 basi, sequentibus margine latè flavis, pedibus fulvis, coxis et femorum apicibus atris, antennis rufis.* (Long. corp.  $5\frac{1}{2}$  lin.; Exp. Alar. 11 lin.)

Ic. *diversorius*. *Marsham MS.—Steph. Catal.* 348. *No.* 4406.

Black: palpi red; inner orbits broadly yellow; antennæ light red; thorax with a slight spot below the wings, and the scutellum yellow; metathorax with 2 very acute spines; abdomen with the base of the 2nd and 3rd segments bright yellow; the other segments with a broad margin of the same; legs clear tawny-yellow; coxæ and femora towards the tips deep black; tibiæ slightly fuscous towards the apex, and yellowish at the base; tarsi tawny; wings smoky-hyaline, with a fulvous stigma.

Probably the female of Ic. *vaginatorius*.

Found near London in June.

Sp. 130. *monitorius*. *Niger, segmentorum 2 et 3 maculâ laterali, 4-6 marginibus flavis, tarsis tibiisque stramineo-flavis, tibiis posticis apice nigro: mas facie ferè totâ flavâ; fœmina orbitis oculorum internis flavis.* (Long. corp.  $6\frac{1}{2}$  lin.; Exp. Alar.  $11\frac{1}{2}$  lin.)

Ic. *monitorius*. *Panzer Faun.* lxxx. *f.* 13.—*Steph. Nomen.* 2d edit. *col.* 134.

Black: face yellow, with a black dot, or black, with the inner orbits yellow; antennæ with the 2 basal joints yellow beneath, rarely black, the 3rd to about the 12th dull chestnut beneath; thorax with a short streak before the wings and a dot beneath them yellow; scutellum yellow; abdomen with a broad fascia at the base of the 2nd segment, rarely interrupted in the middle, a large transverse yellow patch on the sides of the 3rd, the remainder with the margins yellow; legs with the tips of the trochanters yellow, the base and apex of the femora, and the 4 anterior beneath yellow; tibiæ and tarsi also yellow, posterior black at the apex; wings yellowish-hyaline.

Very rare: taken near London in June.

Sp. 131. *fasciatorius*. *Niger, metathorace bispino, facie flavâ, segmentis 2 et 3 flavis apice nigris, ano flavo, trochanteribus tarsis tibiisque stramineo flavis, harum posticis apice nigris.* (Long. corp.  $6-8\frac{1}{2}$  lin.; Exp. Alar. 11—13 lin.)

Ic. *fasciatorius*. *Fabricius.—Steph. Catal.* 347. *No.* 4390.—*Id.* *No.* 4389 ♂.

Black: face yellow; antennæ sometimes fuscous, beneath red, with the basal joint yellow; thorax with a line beneath, a dot before, the wings, the upper edge of the collar and the scutellum yellow; metathorax with 2 acute spines; abdomen with the 2nd segment yellow, the apex broadly black, 3rd also yellow, its hinder margin more or less black, sometimes produced triangularly, rounded, or quadrately in the middle; lateral basal angles of the margin of the 6th and the 7th entirely yellow; legs straw-yellow; coxæ black, anterior sometimes with a yellow dot; 4 anterior femora with a more or less distinct black line in the middle above, posterior black, with the base and occasionally the apex yellow; hinder tibiæ black at the tip.



Female said by Gravenhorst to differ in having the metathorax scarcely armed, the inner orbits, and 4 terminal segments of the abdomen on the margins yellow, and the antennæ annulated with white: I think, however, the following insect to be the true female.

Males extremely abundant on flowers throughout the metropolitan district, especially near Darenth wood, amongst potatoes; also found in various parts of England, towards the end of June.

Sp. 132. *quadrimaculatus*. *Niger, metathorace bispino, orbitis oculorum internis, puncto ad alarum radicem, segmentis 2 et 3 basi, sequentibus margine flavis, pedibus fulvis, coxis et femorum apicibus nigris.* (Long. corp.  $5\frac{1}{2}$ — $7\frac{1}{4}$  lin.; Exp. Alar. 10— $12\frac{1}{2}$  lin.)

Ic. *quadrimaculatus*. *Schranck*.—*Steph. Catal.* 348. No. 4402.

Black: inner orbits yellow; antennæ slender, involuted at the apex, rusty-red, fuscous towards the tip, the basal joint generally rusty beneath; thorax with the anterior margin of the collar, a dot before, and streaks beneath, the wings yellow; metathorax with 2 sharp spines; scutellum yellow; abdomen with a yellow border on the base of the 2nd and 3rd segments, dilated on the sides, the remainder with the margins yellow, or greenish; legs yellow; coxæ black; 4 anterior femora black in the middle, hinder pair black, with the base yellow; apex of the tibiæ, especially the posterior, and the tarsi tawny-yellow; wings yellowish-hyaline.

Is not this the female of the preceding insect?

Not uncommon within the metropolitan district in June; also taken in Norfolk and Salop.

Sp. 133. *trifasciatus*. *Niger, facie et segmentorum 2-4 basi flavis, thorace pedibusque flavo maculatis, abdominis apice fulvo: fœmina? orbitis oculorum internis flavis, annulo antennarum albo.* (Long. corp. 7—8 lin.; Exp. Alar. 14—15 lin.)

Ic. *trifasciatus*. *Gravenhorst*, i. 380.—*Steph. Nomen.* 2d edit. col. 134.

Black: face and orbits yellow; antennæ with the basal joint the same beneath; thorax with the margins of the collar, a streak beneath the wings, a spot on the sides of the prothorax, and sometimes one on the disc and another beneath the scutellum, and the latter yellow; scutellum with 2 acute tubercles; abdomen with the base of the 2nd, 3rd, and 4th segments broadly yellow, the margins of the 5th and 6th, and the 7th almost entirely pale fulvous; legs with the coxæ yellow, black at the base, trochanters yellow, posterior black at the base; 4 anterior femora yellow, above black, posterior black, with the base red; tibiæ yellow, posterior black at the apex, tarsi fulvescent; wings yellowish-hyaline.

Female with the inner orbits yellow; the antennæ incurved, with the 10th to 15th joints white above.

Rare: taken at Darenth wood in June.

Sp. 134. *triangulator*. *Niger, thorace pedibusque flavo maculatis, facie abdomineque fasciâ latâ maculisque 4 triangularibus flavis.* (Long. corp.  $7\frac{1}{2}$  lin.; Exp. Alar. 14 lin.)

Ic. *triangulator*. *Steph. Nomen. 2d edit. Appendix.*

Black: face and basal joint of the antennæ yellow; thorax with the margins of the collar, a spot below the wings and the scutellum, with this last yellow; abdomen with a broad yellow fascia at the base of the 2nd segment, indented in the middle, and a large triangular yellow spot on each side of the 2 following segments, the terminal segment pale fulvous; legs yellow, 4 anterior femora with a black spot behind towards the base, hinder pair black, with the base and apex yellow, and hinder tibiæ black at the tip; posterior trochanters black at the base; wings rather smoky-hyaline.

Also rare: found near London at the end of June.

Sp. 135. *erythropygus*. *Niger, lineâ ante alas, facie, segmentisque 2-4 flavis, his margine nigro maculato, segmento 7 rufo marginato, pedibus anterioribus flavis, posticis nigris, tibiis flavis apice nigro: fœmina orbitis internis oculorum flavis, annulo antennarum albo.* (Long. corp.  $7-7\frac{1}{2}$  lin.; Exp. Alar. 12—14 lin.)

Ic. *erythropygus*. *Gravenhorst, i. 381.—Steph. Nomen. 2d edit. col. 135.*

Black: clypeus and face yellow, as well as the basal joints of the antennæ beneath; thorax with the margin of the collar, a streak below the wings, and generally a line beneath the scutellum, and this last, yellow; abdomen with the 2nd, 3rd, and 4th segments yellow, with the margins more or less black, especially in the middle, the remainder black, with the terminal one, or the last 3, edged with red; legs yellow; hinder coxæ black, with a whitish dot at the tip, the trochanters, and 4 anterior femora behind, at the base, the posterior pair in the middle, and the extreme tip of the hinder tibiæ black; tarsi fulvescent; wings smoky-hyaline.

Female with the inner orbits yellow and the antennæ involuted, with about the 9th to 14th joints white above.

Common within the metropolitan district in June; found also in Norfolk and near Netley.

Sp. 136. *palliatorius*. *Niger, metathorace subbispino, segmentis 2 et 3 flavis apice aut margine flavis, ano flavo, tarsis tibiisque stramineo-flavis, harum posticis apice nigro; mas facie et trochanteribus flavis: fœmina orbitis oculorum internis flavis, antennis albo annulatis.* (Long. corp.  $6\frac{1}{4}-8$  lin.; Exp. Alar. 11—13 lin.)

Ic. *palliatorius*. *Gravenhorst, i. 385.—Steph. Nomen. 2d edit. col. 134.*

Black: face yellow, or inner orbits only in the female; antennæ reddish beneath, with the basal joint yellow; of the female ferruginous, the 10th to 16th above white, beneath fulvescent; thorax with a streak before the wings, most distinct in the female, a dot beneath and the upper margin of the collar, and the scutellum, yellow; metathorax armed with 2 short spines; abdomen with the 2nd and 3rd segments yellow, the former black at the apex and



bordered broadly with that colour in the female, 3rd nearly all yellow in the male, having only a dot or triangular spot on the margin in that sex, but in the female with a broad band, the 4th has the basal angles, especially in the female, and sometimes the margin, yellow; the 7th is yellow, and the intermediate ones sometimes bordered with that colour, or totally black; legs yellow, coxæ black, anterior with a yellow dot in the male, in which sex the trochanters are also yellow; femora either with a black streak within, or black; with the apex reddish; posterior tibiæ black at the apex; wings yellowish-hyaline.

Not uncommon in the neighbourhood of the metropolis in June and July; also found at Netley, &c.

Sp. 137. *occisorius*. *Niger, facie tibiis tarsisque flavis, segmento 2 flavo maculâ nigrâ, 3 toto flavo, sequentibus margine flavo.* (Long. corp. 5—7 lin.; Exp. Alar. 9—11½ lin.)

Ic. *occisorius*. *Fabricius*.—*Steph. Catal.* 348. No. 4412.

Black: mouth and face yellow, this last sometimes with a black mark; antennæ with the basal joint beneath, then with a streak below the wings, an obscure dot before them, the upper edge of the collar, and occasionally a streak behind the scutellum and the last, yellow; abdomen with the 2nd segment yellow, with a transverse black fascia or streak towards the hinder margin, sometimes very faint, 3rd entirely yellow, with rarely a faint black line towards the edge, the remainder black, edged with yellow; legs with the coxæ, trochanters, and hinder femora black, 4 anterior femora beneath and at the apex yellow, tibiæ and tarsi yellow, hinder tibiæ black or fuscous at the tip; wings yellowish-hyaline.

Can this be the male of Ic. *sarcitorius*?

Not very abundant: found near London in the spring, at Hertford, &c.

Sp. 138. *xanthius*. *Niger, facie, lineâ ante alas, dorso metathoracis pedibus et abdomine sordide flavis, femoribus posticis et basi segmentorum nigro maculatis.* (Long. corp. 6 lin.; Exp. Alar. 11 lin.)

Ic. *xanthius*. *Gravenhorst*, i. 392.—*Steph. Nomen*, 2d edit. col. 135.

Black: face and all the orbits yellow; antennæ fuscous, with the 2 basal joints yellow below; thorax with the margins of the collar, a line before the wings, another beneath, and a dot below this, with 2 longitudinal lines on the back, one beneath the scutellum, and the entire declining portion of the metathorax, with the scutellum, yellow; abdomen with the basal segment yellow, peduncle red, black at the base, 2nd to 4th yellow, with the extreme apex black, 5th and 6th black, with the sides and margins yellow, 7th brown, with the sides yellow; legs yellow, coxæ black, with a yellow spot; trochanters black at the base, 4 anterior femora externally fulvous, posterior black externally and internally; wings yellowish-hyaline.

Very rare: taken, I believe, near London.

Sp. 139. oratorius. *Niger, annulo antennarum et tiliarum albo, segmentis 1 et 2 margine, 6 et 7 dorso albis; mas facie et lineolis ad alarum radicem albis.* (Long. corp. 6—7 lin.; Exp. Alar. 10—11 lin.)

Ic. oratorius. *Fabricius.—Steph. Catal. 347. No. 4349.*

Black: mouth, face, and frontal orbits white, or the inner orbits only of the female; antennæ porrect, with the 1st joint white beneath, the 10th to 15th, more or less, white above; of the female incurved; thorax of the male with a line before the wings, or beneath them, and the scutellum white; metathorax also white; abdomen of the male narrower than the thorax, of the female oblong-ovate, the 1st segment with the edge or a marginal spot white, 2nd the same, 3rd, of the male, with the margins also white; the 6th and 7th with a white marginal dot or spot; legs black, 4 anterior coxæ and trochanters in the male white; femora beneath and at the tip, tibiæ within and at the base, and the tarsi dull white, the tips of these last fuscous; posterior tibiæ with a broad ring towards the base, and the posterior tarsi blackish; wings smoky-hyaline.

The white markings on the anterior segments of the abdomen vary considerably in different individuals.

Not uncommon in the vicinity of the metropolis towards the end of June; found also at Netley, &c.

Sp. 140. atramentarius. *Niger, facie, annulo tiliarum, punctoque segmentorum 1, 2 et 7 albis.* (Long. corp.  $5\frac{3}{4}$ —6 lin.; Exp. Alar. 11 lin.)

Ic. atramentarius. *Gravenhorst, i. 397.—Steph. Nomen. 2d edit. col. 135.*

Black: face and clypeus white, the last with a black marginal spot; frontal orbits and scutellum white; abdomen with a small white dot in the middle of the edge of the basal segment, and another on the 2nd, the 7th with a dorsal white spot; legs with the 4 anterior femora having a longitudinal line and the knees white; 4 anterior tibiæ white, with the base and outer apex black, posterior with a broad white ring towards the base; wings slightly smoky-hyaline.

Rather uncommon; found occasionally within the metropolitan district, but more abundantly in Salop, about the end of June.

§ VII. *Scutellum* pale: *abdomen* either with pale marks, or the segments generally yellow, with the last one always black.

Sp. 141. quadrifasciatus. *Niger, facie, maculis duabus metathoracis, segmentorum 1-4 marginibus, flavis, pedibus flavis, nigro maculatis.* (Long. corp. 8 lin.; Exp. Alar. 15 lin.)

Ic. quadrifasciatus. *Gravenhorst, i. 402.—Steph. Nomen. 2d edit. col. 135.*

Black: mouth and face yellow; antennæ with the basal joint beneath the same; thorax with a streak before, one beneath, the wings, and 2 on the metathorax, and the scutellum, yellow; abdomen with the basal segment yellow, with a black peduncle, the 2nd yellow, half black at the tip, 3rd yellow, with the base black, 4th the same, or with a black triangular spot



pointing backwards ; legs yellow, coxæ and trochanters black, with a yellow spot ; 4 anterior femora with a black line, posterior yellow, with the apex black, or black, with the base yellow ; posterior tibiæ with the apex black ; wings yellowish-hyaline.

Very rare : found near London in June.

Sp. 142. *flavoniger*. *Niger, facie punctis ad alarum radicem, maculis meta-thoracis, segmentis 1-3 flavis, segmento 4 flavomaculato, pedibus flavis nigromaculatis.* (Long. corp. 7—8 lin. ; Exp. Alar. 13—14 lin.)

Ic. *flavoniger*. *Gravenhorst.—Steph. Catal. 347. No. 4387.*

Black : face and mouth yellow ; antennæ with the basal joint beneath, thorax with the upper margin of the collar, or neck, a dot before and another below the wings, and at times 1 or 2 on the metathorax, with the scutellum yellow ; abdomen with the basal segment yellow, its peduncle black, 2nd and 3rd yellow, sometimes with the extreme edge black, the 4th either with the sides and margins yellow, or yellow, with a basal black spot, or entirely black, with intermediate varieties ; legs yellow, coxæ black, with a yellow spot ; trochanters black, with the tips yellow ; 4 anterior femora towards the outer base, and the posterior at the apex, and hinder tibiæ also at the tip, black ; wings yellowish-hyaline ; cellule 5-angular.

It appears singular that of this abundant insect males only should be known : can the opposite sex be *Ic. terminatorius* ?

Common in some parts of the country, especially near London and in Salop, in the summer.

Sp. 143. *equitatorius*. *Niger, facie, punctisque ad radicem alarum flavis, segmentis 1-4 flavis, basi plerumque nigris, pedibus flavis, coxis et trochanteribus nigris.* (Long. corp. 6—7½ lin. ; Exp. Alar. 11—13 lin.)

Ic. *equitatorius*. *Gmelin.—Steph. Catal. 347. No. 4383.*

Black : mouth and face yellow, the latter with sometimes a black dot or patch, or black, with the orbits alone yellow ; antennæ dusky, the basal joint yellow or ferruginous beneath ; thorax with a dot before, another beneath, and a minute one below the scutellum, as also this last, yellow ; abdomen with the 1st segment yellow, its base black, 2nd also yellow, generally reddish or fuscous at the base, 3rd and 4th yellow, with the base fuscous or black, remainder black, the 7th being more or less ferruginous ; legs yellow, coxæ and trochanters black, the tip of the last fulvescent ; the 4 anterior coxæ frequently with a more or less distinct yellow dot ; wings hyaline ; cellule somewhat 3-angular.

Larva feeds on that of *Achatia piniperda*.

Rare : taken near Hertford and Ripley in June.

Sp. 144. *luridus*. *Niger, facie, punctis ad alarum radicem, maculisque meta-thoracis, flavis, abdomine flavo, apice nigro, pedibus anterioribus sordide fulvis, posticis nigris tibiis basi flavo.* (Long. corp. 4—6 lin. ; Exp. Alar. 7—10½ lin.)

Ic. *luridus*. *Gravenhorst, i. 406.—Steph. Nomen, 2d edit. col. 135.*

Black: mouth, face, and orbits yellow; antennæ with the 2 basal joints beneath the same; thorax with a dot below the wings, a streak before ascending to the collar, a dot or transverse line beneath the scutellum, margin of the collar, a trilobed spot, or 2 small ones on the metathorax, and the scutellum yellow; abdomen with the basal joints yellow, with a spot near the tip, and the base of the peduncle black, 2nd to 4th tawny-yellow, the edge of the last sometimes black; 4 anterior legs dull yellow, coxæ and trochanters generally black at the base, posterior paler black, with the base of the tibiæ yellow; wings hyaline.

Rather uncommon, at least within the metropolitan district, where it occurs in June.

Sp. 145. *defensorius*. *Niger, facie lineâ ante alas, segmentis 2-4, pedibusque flavis, harum posticis nigro-maculatis.* (Long. corp. 7 lin.; Exp. Alar. 13 lin.)

Ic. *defensorius*. *Gravenhorst, i. 408.—Steph. Nomen. 2d edit. col. 135.*

Black: mouth and face yellow; the basal joint of the antennæ the same beneath; thorax with the upper edge of the neck, a streak before, and a dot beneath, the wings, and one below the scutellum, and the scutellum yellow; metathorax slightly bispinose, with 2 obscure reddish spots; abdomen with the 2nd to 4th segments dull reddish-yellow, with the sides and extreme margins dusky; 4 anterior legs entirely yellow, posterior with the coxæ and trochanters black, yellow at the tip, femora dark yellow, with a dark spot in the middle; tibiæ yellow, black at the tip; tarsi tawny, dusky at the apex; wings yellowish-hyaline.

Not common: found near London in June.

Sp. 146. *conspurcatus*. *Niger, lineâ ante alas, segmentis 2 et 3 totis, 4 margine medio interrupto, tibiis et latere interno femorum flavis, tibiis posticis apice nigro.* (Long. corp. 7 lin.; Exp. Alar. 13 lin.)

Ic. *conspurcatus*. *Gravenhorst, i. 409.—Steph. Nomen. 2d edit. col. 135.*

Black: clypeus with 2 minute yellow dots; thorax with a streak before, and line beneath, the wings and the scutellum yellow; abdomen with the 2nd and 3rd segments also yellow, generally with an irregular fuscous or reddish dorsal spot on the margins, 4th with the margins interrupted with yellow in the middle; legs with the coxæ and trochanters black, the 4 former generally with a minute yellowish dot; femora black, yellowish above; tibiæ dull yellow, posterior black at the tip, and sometimes dusky at the very base; wings somewhat smoky-hyaline.

Also rather scarce: taken in June near London.

Sp. 147. *bisignatus*. *Niger, facie et thorace flavo-maculatis, segmentis 2 et 3-4 flavis, puncto marginali nigro, tibiis flavis, posticis apice nigro, stigmatibus alarum fusco.* (Long. corp. 8 lin.; Exp. Alar. 14 lin.)

Ic. *bisignatus*. *Gravenhorst, i. 410.—Steph. Nomen. 2d edit. col. 135.*



Black: mouth and face, or inner orbits broadly, yellow; antennæ with the basal joints beneath dull yellow; thorax with a streak before, and sometimes another below the wings, and the scutellum yellow; abdomen with the 2nd and 3rd, and occasionally the 4th segments, reddish-yellow, with a small somewhat triangular black dorsal spot; legs with the tips of the trochanters red, the anterior femora beneath and at the apex, and the middle at the tip alone reddish-yellow; tibiæ yellow, hinder ones black at the apex; wings smoky-hyaline.

Taken near London in June, and also in Salop, but apparently rare.

Sp. 148. *luctatorius*. *Niger, punctis seu lineolis ad radicem alarum, segmentis 2 et 3 tibiisque flavis, harum posticis apice nigro: mas facie flavâ.* (Long. corp. 5—9½ lin.; Exp. Alar. 8—12½ lin.)

Ic. *trilineatus*. *Linné.—Steph. Catal. 347. No. 4385.*

Black: mouth and face yellow, the last sometimes with the middle black, and in the female? with the inner orbits alone and a dot on the sides of the clypeus of that colour; antennæ porrect, the basal joint beneath yellow, and the remainder sometimes red; and of the female? from about the 9th to 14th joints are white above; thorax with the ordinary yellow streaks and dots, or totally black; scutellum yellow, its disc sometimes blackish, or entirely black; abdomen rather narrow, with the 2nd and 3rd segments yellow, the 4th for the most part with a tawny or red patch at the basal angle, and occasionally the extreme edge both of it and of the 5th very narrowly yellowish; the 4th is at times entirely yellow, and the 2 preceding occasionally slightly tawny on the sides; legs yellow, coxæ and trochanters black, occasionally more or less yellow at the apex, or entirely yellow; femora more or less stained with black, especially towards the base, though the anterior pair are sometimes clear yellow; tibiæ yellow, posterior pair black at the tip, or at times immaculate; hinder tarsi with the apex of the joints sometimes blackish; wings ample, slightly stained, hyaline.

Extremely variable in size and in the proportions of yellow on the legs: the female I suspect is not rightly known; the notice of that sex above given being from Gravenhorst, who appears to have seen 3 or 4 only out of multitudes of the other sex.

Parasitic upon *Triphæna Pronuba* and other Noctuidæ.

Very abundant in certain situations within the metropolitan district, especially near Darenth wood, in June; common also in other parts of the country.

Sp. 149. *fulvicornis*. *Niger, facie lineolis ad radicem alarum segmentisque 2 et 3 flavis, antennæ basin versus fulvo rufis, pedibus flavis, nigro maculatis.* (Long. corp. 4—5 lin.; Exp. Alar. 7—10 lin.)

Ic. *fulvicornis*. *Gravenhorst, i. 422.—Steph. Nomen. 2d edit. col. 135.*

Black: mouth and face yellow; antennæ with the basal joint black, yellow

beneath, 2nd black, 3rd red, fuscous above, 3 or 4 following entirely red, remainder red, fuscous above; thorax with a streak before, and one below, the wings, and another beneath the scutellum, and the scutellum yellow; abdomen with the 2nd and 3rd segments yellow, somewhat fulvescent towards the base, the 4th sometimes with a yellow lateral spot; legs with the coxæ black, anterior more or less yellow in the middle, trochanters black, 4 anterior yellow at the tip, and the posterior red; femora yellow, anterior fulvous above, middle more or less black in the middle; posterior black, with the extreme tip red; tibiæ yellow, the middle intensely fulvous, and the posterior generally black, at the tip; tarsi yellow, posterior dusky at the apex; wings somewhat smoky-hyaline; cellule nearly 5-angular.

Not common: taken, but very rarely, near London, in July.

Sp. 150. *illuminatorius*. *Niger, facie et segmentis 2 et 3 flavis, 3 basi fusco nigrâ, antennis subtus rufis, tibiis tarsisque flavis, posticis apice nigro.* (Long. corp.  $4\frac{1}{2}$ —6 lin.; Exp. Alar. 11 lin.)

Ic. *illuminatorius*. *Gravenhorst, i. 423.—Steph. Nomen. 2d edit. col. 135.*

Black: mouth, face, and frontal orbits yellow; antennæ fuscous, with the 1st joint yellow beneath, the remainder reddish; thorax with a streak beneath the wings, a dot before them, and an obscure one below the scutellum, with this last, yellow; abdomen with the 2nd and 3rd segments yellow, the 3rd with a transverse black or fuscous line at the base; 4 anterior legs yellow, with the base of the coxæ and outer edge of the femora black; posterior black, with the tibiæ yellow, black at the tip; tarsi brown, with the basal joint yellow; wings somewhat smoky-hyaline.

Also found in July near London, and somewhat uncommon.

Sp. 151. *occupator*. *Niger, orbitis oculorum internis segmentisque 2 et 3, flavis, femoribus tibiisque fulvis.* (Long. corp. 5—6 lin.; Exp. Alar. 10—11 lin.)

Ic. *occupator*. *Gravenhorst, i. 425.—Steph. Nomen. 2d edit. col. 135.*

Black: inner orbits more or less broadly yellow, and sometimes 2 dots of the same beneath the antennæ, of which the 1st joint below is also yellow, the remainder reddish or fuscous; thorax occasionally with a faint line or streak before the wings, and a minute dot beneath them, and the scutellum yellow; abdomen with the 2nd and 3rd segments yellow, the margin sometimes fulvous, 4th with the base and sometimes a small marginal dorsal spot fulvescent, and rarely the 3 following segments also with a yellow marginal dot; legs with the femora fulvous, the tibiæ also fulvous, palest at the base, especially the posterior, which last are black at the tip; tarsi also fulvous, with the hinder pair rather dusky, except the basal joint, which is reddish; wings smoky-hyaline; cellule somewhat 5-angular.

Rather uncommon: taken near London, and at Netley, in June.

Sp. 152. *bidentorius*. *Niger, punctis duobus ad radicem alarum, basique segmentorum 2 et 3, flavis, pedibus fulvis, coxis et trochanteribus nigris.* (Long. corp. 7 lin.; Exp. Alar. 13 lin.)



*Ic. bidentorius. Fabricius.—Steph. Catal. 348. No. 4392.*

Black : mouth, face, and basal joint of the antennæ beneath yellow ; thorax with a dot before, and another beneath, the wings also yellow ; metathorax with 2 small acuminate tubercles ; abdomen with the 2nd and 3rd segments yellow, the former with a broad and the latter with a narrow black margin ; legs dull straw-colour, with the tips of the femora and tibiæ fulvous, coxæ black, 4 anterior pale yellow beneath ; trochanters also black, 4 anterior pale yellow beneath, posterior fulvous at the apex ; wings somewhat smoky-hyaline.

Also rare : found near London about June.

*Sp. 153. viridatorius. Niger, segmento uno pluribusve fasciâ glaucâ pictis, pedibus fulvis, coxis et trochanteribus nigris : mas facie flavâ ; fœmina antennis annulatis. (Long. corp. 6—7 lin. ; Exp. Alar. 10½—12 lin.)*

*Ic. viridatorius. Gravenhorst, i. 428.—Steph. Nomen. 2d edit. col. 135.*

Black : mouth and face yellow, in the female the inner orbits alone only faintly so ; antennæ of the male with the basal joint yellow beneath ; of the female with about the 9th to 17th, more or less, whitish, beneath reddish ; thorax in the male with a line or dot before the wings, and sometimes a dot below them, and the scutellum yellow ; abdomen of the male with the base of the 3rd segment yellowish, sometimes interrupted in the middle ; of the female with the base glaucous, and the 4 following with the margins generally of the same hue ; legs fulvous, red in the female, coxæ and trochanters black, 4 anterior in the male with a more or less distinct yellow spot, 4 anterior femora sometimes a little blackish without or at the tip, and hinder tibiæ black at the apex ; tarsi fuscicent ; wings smoky-hyaline.

Scarce : taken in the New Forest, and occasionally near London, towards the end of June.

*Sp. 154. natatorius. Niger, annulo antennarum, punctis 2-bus baseos segmentorum 2 et 3, nec non margine summo ultimorum albidis, femoribus tibiisque fulvis, posticis apice nigro. (Long. corp. 7—8½ lin. ; Exp. Alar. 14—17 lin.)*

*Ic. natatorius. Fabricius.—Steph. Catal. 348. No. 4399.*

Black : inner orbits white, or reddish ; antennæ with about the 11th to 16th joints white above ; thorax sometimes with a minute white dot before, and another below, the wings ; scutellum white ; abdomen with 2 rather obscure lunate yellowish-white dots at the base of the 2nd segment, sometimes united ; the 3rd with 2 distinct yellowish-white spots at the base, 1 towards each side ; the 4th with the margins whitish in the middle, and the 7th with a white dorsal spot ; the intermediate ones sometimes with a faint white margin ; legs red, with the coxæ and trochanters black ; the posterior tarsi, the apex of the hinder tibiæ, and sometimes of their femora, also black ; wings smoky-hyaline, with the stigma red.

Rare : found in the vicinity of London, and in Devonshire, in July.

Sp. 155. *glaucatorius*. *Niger, antennis medio rufis, segmentis ultimis latera versus albomarginatis, femoribus tibiisque fulvis, harum posticis apice nigro.* (Long. corp. 5—7 lin.; Exp. Alar. 9—13 lin.)

Ic. *glaucatorius*. *Fabricius, E. ii. 136.—Steph. Nomen. 2d edit. col. 135.—Ic. basalis. Steph. Nomen. 2d edit. col. 135, var.*

Black: facial orbits and spot on the sides of the clypeus sometimes whitish or reddish; antennæ of the male porrect, 2 basal joints black, following either entirely red, or the 3rd to about the 8th above black, thence to the 14th entirely pale red, rest black; of the female incurved, fuscous, the 2 basal joints beneath ferruginous, the following 11 mostly red; thorax with a line before and beneath the wings, and the scutellum yellowish-white; abdomen with the 3 basal segments opaque, the 3rd with a lateral marginal dot or streak, and the remainder with the margins more or less broadly, and sometimes interrupted in the middle, glaucous-white; legs red, coxæ and trochanters black, the posterior trochanters red at the tip, and that portion of the hinder tibiæ and tarsi black; wings rather smoky-hyaline; cellule 5-angular.

Var.? with the scutellum black, the 2 basal joints of the antennæ black, the 10 following bright fulvous, thorax exteriorly black, abdomen with the 4th to 7th segments very indistinctly margined with glaucous.

Also very rare: it has occurred in June at Darenth wood, and in July in the New Forest.

Sp. 156. *sugillatorius*. *Niger, antennarum annulo, orbitis oculorum internis, punctoque laterali apicali segmentorum albis.* (Long. corp.  $5\frac{1}{2}$ — $6\frac{1}{2}$  lin.; Exp. Alar.  $9\frac{1}{2}$ —11 lin.)

Ic. *sugillatorius*. *Linné.—Steph. Catal. 348. No. 4400.*

Black: facial orbits of the male broadly, and frontal ones of the female narrowly white; antennæ of the male porrect, with the 12th to 14th joints white above; of the female involuted, a little compressed towards the apex, and with about the 9th to 14th joints white above; thorax with a minute dot or streak before, and another beneath the wings, and the scutellum white; abdomen rich blue-black, with a more or less distinct round white dot on both sides of the margin of each of the 4 basal segments, sometimes wanting on the 1st and 4th; legs black, the anterior tibiæ beneath and tip of the femora dull-whitish, the middle and tarsi fuscous; wings somewhat smoky-hyaline; cellule somewhat 5-angular.

Very rare, at least in the south of England, but I believe more abundant towards the north.

Sp. 157. *flavoguttatus*. *Niger, orbitis oculorum internis, picturis thoracis et pedum, maculæque laterali apicali segmentorum anteriorum flavis: mas antennis subpallide annulatis; fœmina antennarum annulo albo.* (Long. corp. 5— $6\frac{1}{2}$  lin.; Exp. Alar. 12—13 lin.)

Ic. *flavoguttatus*. *Gravenhorst, i. 442.—Steph. Nomen. 2d edit. col. 135.*



Black: greater portion of the head yellow, the male with an irregular patch on the crown, and a spot on the cheek, and the female with a longitudinal patch in front carried on to the occiput black; antennæ with the basal joint yellow beneath, of the male porrect, with the 11th to 19th joints with a yellow dot above; of the female incurved at the tip, with about the 10th to 18th joints yellow above and on the sides; thorax with the anterior edges of the collar, its lateral margin, a dot before, and line beneath the wings, an irregular patch on the pleuræ, 2 dots on the disc, 1 beneath the scutellum, and 2 larger ones on each side of the metathorax and the scutellum tawny-yellow, especially in the female; abdomen of the male with a large yellow patch on the sides of each apical angle of the 3 basal segments, and in the female of the first 2, those on the basal segment, in each sex, sometimes united; legs yellow, middle coxæ black at the base, posterior black, with a large yellow patch, trochanters black, 4 anterior femora more or less black at the base within, posterior pair black, with the apex yellow; 4 anterior tibiæ fuscous, and the posterior pair black, at the base; tarsi with the tips of the joints of the hinder pair blackish in the female.

This, which is perhaps the most beautiful species of the genus, has occurred, but very rarely, in the vicinity of London, in June.

Sp. 158. *designatorius*. *Niger, orbitis oculorum internis, lineis 2-bus ad alarum radicem, punctoque laterali segmentorum anteriorum albis.* (Long. corp. 7—8 lin.; Exp. Alar. 11—13 lin.)

Ic. *designatorius*. *Linné.—Steph. Catal. 348. No. 4397.*

Black: palpi and inner orbits broadly white; antennæ with about the 13th to 17th joints white above; thorax with a distinct line before the wings, a dot below, and sometimes 2 contiguous ones beneath the scutellum, and the latter white; abdomen bluish-black, with a white dot on the margin of each side of the 4 basal segments; legs black, 4 anterior femora at the tip, and their tibiæ and tarsi beneath whitish; wings smoky-hyaline; cellule somewhat 5-angular. Female said to have the frontal orbits slightly whitish, the antennæ curved at the apex, with about the 10th to 15th joints white above, and the legs reddish, where they are whitish in the male.

Of the male with black antennæ, with the basal joint white beneath: I have not seen a British specimen.

Also very rare: it has been taken in the New Forest and in Scotland, in July.

Sp. 159. *eximius*. *Cæruleo-niger, orbitis oculorum frontalibus et externis picturis thoracis lateribusque scutelli flavo-albidis, annulo antennarum albo.* (Long. corp.  $5\frac{1}{2}$  lin.; Exp. Alar. 9 lin.)

Ic. *eximius*. *Steph. Nomen. 2d edit. Appendix.*

Blue-black: frontal and exterior orbits yellowish-white; antennæ involuted, with about the 8th to 13th joints white above; thorax with the lateral

margins of the collar, a streak below the wings, two longitudinal abbreviated ones on the disc before the scutellum, and the lateral margins of the last yellowish-white; metathorax glossy blue; abdomen punctured, blue-black, with a minute white dot on each of the apical angles of the 1st segment; legs black, 4 anterior femora at the extreme tip, and the anterior tibiæ in front pale whitish red; wings smoky-hyaline, with a black stigma.

This fine and conspicuous species was found in Yorkshire: I obtained it from Haworth's collection.

+Sp. 160. subguttatus. *Niger, lineâ ante alas, punctis 2-bus segmenti primi, annuloque tiliarum albis: mas facie albâ; fœmina annulo antennarum et orbitis oculorum internis albis.* (Long. corp.  $6\frac{1}{2}$ — $7\frac{1}{4}$  lin.; Exp. Alar. 11—12 lin.?)

Ic. subguttatus. *Gravenhorst, i. 449.—Curtis, Guide, col. 80.—Steph. Nomen. 2d edit. col. 135.*

Black: male with the mouth, face, and orbits white, with a black spot on the face and clypeus: female with the inner orbits and a vestige of the outer ones also white; mandibles with a chestnut spot; antennæ with the basal joint white beneath in the male, and the 9th to 14th of that colour above in the female; thorax with a streak before, and dot beneath the wings, and the scutellum white; abdomen with 2 minute white dots on the basal segment, and occasionally on the second; legs black; hinder tibiæ with a broad white ring towards the base.

I believe this species has been taken in England: it is so doubtfully indicated in Curtis's Guide.

Sp. 161. albolineatus. *Niger, orbitis oculorum internis, lineâ ante alas, margine seu punctis 2-bus segmenti 1-mi, tibiisque internè, albis.* (Long. corp. 6 lin.; Exp. Alar. 11 lin.)

Ic. albolineatus. *Gravenhorst, i. 450.—Curtis, Guide, col. 80.—Steph. Nomen. 2d edit. col. 135.*

Black: palpi pitchy; inner orbits and a lateral spot on the clypeus white; thorax with the upper ridge of the neck, a line before, and dot beneath, with a streak below the scutellum, and the last, white; abdomen blackish, with the margin of the basal segment, or two dots thereon, white; legs black, anterior pale ferruginous beneath, tibiæ white within, posterior fuscous at the apex; wings smoky-hyaline.

I suspect Ic. lipunctorius, described in p. 154, to be a variety of this species.

Found, but not commonly, near London, in June; also in the New Forest.

§ VIII. *Scutellum* pale: *abdomen* either entirely red, or red and black.

Sp. 162. fusorius. *Niger, orbitis oculorum internis, punctoque seu punctis 2-bus ad alarum radicem, albis, tarsis tibiis abdomineque rufis, segmento 1-mo nigro:*



*fœmina antennarum annulo albo.* (Long. corp. 9—12 lin.; Exp. Alar. 14—17 lin.)

Ic. fusorius. *Linné.—Steph. Catal.* 349. No. 4417.

Black: frontal orbits white of the female, internal and greater part, or all, of the outer in the male the same; antennæ of the female with the 4th to 8th joints generally ferruginous beneath, the 7 or 8 following white above, the remainder reddish beneath; thorax with a dot below and another before the wings, and of the female with the upper margin of the neck also, and the scutellum white; abdomen with the basal joint black, its extreme edge in rare instances reddish, the remaining segments tawny or red; legs with the femora black, their extreme apex and the tibiæ red, posterior pair sometimes black at the apex; tarsi red, occasionally with the tips of the joints fuscous or black; wings brownish-hyaline.

Taken, though very rarely, within the metropolitan district, in the autumn.

Sp. 163. *pisorius.* *Niger, lineis ad alarum flavis abdomine dilute rufo, petiolo obscuriore: mas facie flavâ, pedibus flavicantibus nigro maculatis; fœmina orbitis oculorum frontalibus et annulo antennarum albis, pedibus nigris, tibiæ medio flavo.* (Long. corp. 8—11 lin.; Exp. Alar. 12—16 lin.)

Ic. *pisorius.* *Linné.—Steph. Catal.* 349. No. 4418.

Black: face, mouth, and orbits yellow, of the female the last only so above; antennæ of the male with the 2 basal joints beneath yellow, of the female involuted at the apex, with about the 8th to 16th joints white above, fuscous beneath; thorax with the lateral margin of the collar, a dot at the base, and a streak below the wings, and sometimes one beneath the scutellum, and this last, yellow; abdomen pale red, with the peduncle dusky, or blackish; legs with the coxæ and trochanters black, the latter tipped, and the former spotted, with yellow; anterior femora tawny-yellow, with a black streak at the base behind, intermediate yellow, black at the base, posterior black; tibiæ yellow, hinder pair tipped with black; tarsi yellow.

Apparently very rare: found near London.

Sp. 164. *erythrogaster.* *Niger, puncto ad alarum radicem flavo, abdomine dilute rufo, segmento 1-mo pedibusque nigris; fœmina orbitis oculorum internis annuloque antennarum albis.* (Long. corp.  $10\frac{1}{2}$  lin.; Exp. Alar.  $15\frac{1}{2}$  lin.)

Ic. *erythrogaster.* *Steph. Nomen.* 2d edit. Appendix.

Black: inner orbits of the female narrowly white; antennæ with about the 10th to 15th joints above white; thorax with a yellow streak beneath the wings at the base; scutellum also yellow; abdomen pale red, the basal segment black; legs black, the 4 anterior femora at the extreme tip, and the anterior tibiæ in front reddish, the hinder tibiæ fuscous, with a slightly paler tint towards the base on the outside; wings dusky-hyaline.

This fine and conspicuous insect was found by the late Rev.

J. Burrell in Norfolk, and sent by him to Mr. Haworth, from whose collection I obtained it.

Sp. 165. *repentinus*. *Niger, abdomine rufo, basi nigro, tibiis medio albidis; fœmina antennis albo-annulatis.* (Long. corp. 6—7 lin.; Exp. Alar.  $10\frac{1}{2}$  lin.)

Ic. *repentinus*. *Gravenhorst*, i. 467.—*Steph. Nomen*. 2nd edit. col. 136.

Black: antennæ of the female with about the 10th to 14th joints white above; thorax with an obscure dot before the wings; scutellum yellow; abdomen red, with the basal segment black; legs with the coxæ, trochanters, and femora black, the extreme apex of the anterior femora reddish; tibiæ whitish at the base, the apex reddish-brown; tarsi reddish-brown.

From Mr. Haworth's collection: taken in Norfolk.

†Sp. 166. *cinctorius*. *Niger, abdominis segmento 3-tio rufo.* (Long. corp. 7 lin.? Exp. Alar. 10 lin.?)

Ic. *cingulatorius*. *Steph. Nomen*. 2d edit. col. 136.

Black: abdomen with the 3rd segment red.

Of this very distinct insect I regret having made no other memorandum than the above. I may, however, at some future opportunity, describe it more fully.

The only example I have hitherto seen was taken in Hants, I believe, by the Rev. G. T. Rudd.

Sp. 167. *divisarius*. *Niger, segmentis 2 et 3 rufis: mas tibiis albis apice nigro; fœmina tibiis ferè totis nigris, antennis albo annulatis.* (Long. corp. 6—7 lin.; Exp. Alar. 10—11 lin.)

Ic. *divisarius*. *Gravenhorst*, i. 470.—*Steph. Nomen*. 2d edit. col. 136.

Black: facial orbits, of the male, more or less distinctly white, anterior with the basal joint sometimes whitish at the tip; of the female involuted, with about the 10th to 14th joints white above and on the sides; thorax with a streak and 1 or 2 dots at the base of the wings white; scutellum, or its apex only, white; abdomen with the 2nd and 3rd segments tawny-red, the extreme margin sometimes obscure, and the basal angles of the 4th occasionally reddish; legs with the anterior femora almost entirely, and the middle pair at the apex, whitish or ferruginous, hinder pair black; 4 anterior tibiæ white beneath and at the base, posterior pair white, with the extreme base and the apex black, or all brownish, with the middle of the outer edge whitish; tarsi more or less fuscous.

Found, but not commonly, in June near London.

Sp. 168. *Goëdarti*. *Niger, segmentis 2 et 3 rufis.* (Long. corp.  $5\frac{1}{2}$  lin.; Exp. Alar. 9 lin.)

Ic. *Goëdarti*. *Gravenhorst*, i. 474.—*Steph. Nomen*. 2d edit. col. 136.

Black: antennæ involuted, with the 11th to 13th joints brownish beneath; metathorax with 2 slightly acute tubercles; scutellum yellowish; abdomen ovate, with the 2nd and 3rd segments red, the basal one occasionally with



the margins reddish; legs with the anterior tibiæ and tarsi ferruginous beneath; wings smoky-hyaline.

Taken near London and in Norfolk.

Sp. 169. *alticola*. *Niger, segmentis 2-4 rufis, 4-marginè nigro, cellulâ triangulari, annulo antennarum albo.* (Long. corp. 5—6 lin.; Exp. Alar. 9—10 lin.)

Ic. *alticola*. *Gravenhorst, i. 478.—Steph. Nomen. 2d edit. col. 136.*

Black: antennæ with the 6th to about the 12th or 13th joints white above; metathorax slightly bidentate; scutellum white; abdomen with the 2nd, 3rd, and 4th segments red, the latter with the margin more or less broadly black; legs black, the extreme tips of the anterior femora, and the tibiæ beneath reddish, or ferruginous; wings smoky-hyaline, with the cellule 3-angular.

Found in South Wales in June.

Sp. 170. *serenus*. *Niger, abdomine, pedibusque rufis, basi nigris, punctis 2-bus apicalibus scutelli, 2-bus ante scutellum, uno 2-busve ad alarum radicem, albis; foemina antennarum annulo albo.* (Long. corp. 7 lin.; Exp. Alar. 10 lin.)

Ic. *serenus*. *Gravenhorst, i. 484.—Steph. Nomen. 2d edit. col. 136.*

Black: facial and part of the outer orbits white, and the frontal ones of the female; antennæ of the female involuted, with about the 10th to 17th joints white above; thorax with a white dot before and beneath the wings, and another before each angle of the scutellum, this last with 2 minute shining white dots at its apex; abdomen finely punctured, light red, with the 1st segment and extreme base of the 2nd black; of the female red, with the tip of the 1st dull ferruginous; legs with the femora red, externally black; posterior entirely red in the female; tibiæ red, of the male dusky without, of the female the anterior are brownish without, the 4 posterior dusky at the tip; tarsi fuscous.

Inhabits the vicinity of London, in June.

Sp. 171. *sexlineatus*. *Niger, abdominis medio castaneo, orbitis oculorum, lineâ ante alas, lineolâ infra alas, tibiisque antivis subtus albis.* (Long. corp. 5 lin.; Exp. Alar. 8 lin.)

Ic. *sexlineatus*. *Gravenhorst, i. 487.—Steph. Nomen. 2d edit. col. 136.*

Black, with the lateral margins of the clypeus, and the inner and lower orbits white; antennæ sometimes with the basal joint white in the middle beneath; thorax with a streak before and another below the wings white; scutellum white at the apex; abdomen slender, with the 2nd and 3rd segments chestnut-red, with an obscure dorsal cloud, the 4th the same, with the disc blackish, the 5th with the sides also somewhat castaneous; legs with the anterior femora beneath fulvous, with the apex yellow, tibiæ and tarsi whitish, middle with the extreme apex pale straw-colour, the tibiæ whitish, posterior black.

Found, but not commonly, within the metropolitan district, about July.

Sp. 172. *semirufus*. *Niger, segmentis 1-4 tibiisque anticis rufis: mas orbitis oculorum internis albis; fœmina antennarum annulo albo.* (Long. corp. 3—4 lin.; Exp. Alar. 5—6 lin.)

Ic. *semirufus*. *Gravenhorst, i. 488.—Steph. Nomen. 2d edit. col. 136.*

Black: inner orbits, of the male, and sometimes a dot on the sides of the clypeus, white; antennæ somewhat rusty beneath, of the female involuted, with about the 10th to 16th joints white above; thorax with a whitish dot beneath and before the wings; scutellum white, or at the apex only in the male, in which sex the abdomen has the basal segment black, with its tip reddish, the 3 following red, the sides of the 5th sometimes reddish at the base; of the female the 4 basal segments are red, with the peduncle black, the 4th dusky on the sides, and the remainder black; legs with the femora black, the anterior beneath, more or less, and the middle at the apex, yellowish or tawny; tibiæ red, the posterior pair black at the tip, the anterior in the male yellowish within; anterior tarsi red, posterior fuscous.

Not very uncommon, near London, in June and July.

Sp. 173. *orbitalis*. *Niger abdomine rufo, apice nigro, tibiis rufis, posticis apice nigro, annulo antennarum et orbitis oculorum internis albis.* (Long. corp. 3—4½ lin.; Exp. Alar. 5—6½ lin.)

Ic. *orbitalis*. *Gravenhorst, i. 490.—Steph. Nomen. 2d edit. col. 136.*

Black: inner orbits, part of the outer, and a spot on the mandibles, yellowish-white; antennæ porrect, with about the 12th to 16th joints white above and on the sides; thorax with a minute whitish dot beneath the wings; scutellum whitish; abdomen with the basal segment chestnut-red, the peduncle black, 3 following chestnut-red, the margins of the 4th occasionally blackish, remainder black, the extreme edges with a palish tint; legs with the 4 anterior femora ferruginous beneath, black above and within; posterior black, with the base red, or red, with the apex black; tibiæ red, 4 anterior more or less fuscous without, and the posterior black at the tip; wings hyaline; cellule somewhat 3-angular.

Apparently rare; found near London in July.

Sp. 174. *persecutor*. *Niger, annulo antennarum orbitisque oculorum internis albis, segmentis 2-4 rufis.* (Long. corp. 3 lin.; Exp. Alar. 5 lin.)

Ic. *persecutor*. *Gravenhorst, i. 491.—Steph. Nomen. 2d edit. col. 136.*

Black: facial orbits very delicate and white; antennæ porrect, with the 13th to 16th joints white above; scutellum white; abdomen with the 2nd to 4th segments red, the 7th faintly edged with whitish; legs black, with the anterior femora at the apex and their tibiæ on the lower side tawny-whitish; middle femora at the extreme tip and lower edge of the tibiæ, with the extreme base, fulvescent; wings smoky-hyaline; cellule 5-angular.

Also taken near London in July, but not common.

Sp. 175. *sedulus*. *Niger, abdomine rufo, apice nigro, femoribus rufis nigro maculatis, tibiis rufis posticis apice nigro, orbitis oculorum lineaque ante alas*



*albis*: mas *antennis subtus rufis*; *fœmina antennarum annulo albo*. (Long. corp. 3—4½ lin.; Exp. Alar. 5—7 lin.)

Ic. *sedulus*. Gravenhorst, i. 492.—*Steph. Nomen*. 2d edit. col. 136.

**Black**: dot on the sides of the clypeus, and orbits, except a small space on the occiput, white, in the female the inner ones only; antennæ with the 3 basal joints entirely black, the rest fulvous beneath; of the female incurved, with the 8th to 14th joints, in general, whitish-yellow, dusky beneath; thorax with the upper margin of the neck, a line before and below the wings, and in the female one beneath the scutellum whitish-yellow; scutellum white, frequently black at the base, and in the female red, with the tip yellowish; abdomen with the 1st segment slender, red, the peduncle black, or black, with the tip red, the 3 following red, the 5th and 6th black, with the extreme basal angles sometimes red, the 7th totally black; legs red; femora more or less varied with black; tibiæ red, the hinder pair black at the tip; wings somewhat smoky-hyaline; cellule somewhat 3-angular.

**Scarce**: found in June near London.

Sp. 176. *lanius*. *Niger, abdomine rufo, basi nigrâ, facie et lineâ ante alas albis, pedibus anterioribus fulvis, coxis albis*. (Long. corp. 3—4½ lin.; Exp. Alar. 5—7 lin.)

Ic. *lanius*. Gravenhorst, i. 499.—*Steph. Nomen*. 2d edit. col. 136.

**Black**: face, mouth, cheeks, and generally the frontal orbits slightly, white; antennæ porrect, with the basal joint white beneath; thorax with a line before, another below, mostly the lateral margin of the collar, and 2 large spots on the breast, white; scutellum at the apex, or sometimes only the apical margin white; abdomen with the 2 basal segments black, the 2nd with the apex generally red, remainder also red, with the base of the 3rd occasionally blackish; legs with the 4 anterior coxæ and trochanters whitish, the femora, tibiæ, and tarsi red; posterior black, with the tibiæ more or less red or ferruginous at the base; wings subhyaline, iridescent.

**Common** in the vicinity of the metropolis; found also in Salop, &c.

Sp. 177. *vacillatorius*. *Niger, abdominis medio rufo, femoribus rufis, maculâ nigrâ, tibiis rufis, posticis apice nigro, puncto albo infrâ alas*: mas *maculâ faciali flavâ, lineâque albâ ante alas*; *fœmina antennarum annulo albo*. (Long. corp. 2½—3¼ lin.; Exp. Alar. 4—5½ lin.)

Ic. *vacillatorius*. Gravenhorst, i. 500.—*Steph. Nomen*. 2d edit. col. 136.

**Black**: mouth, facial orbits, and a large spot on the face yellow, the female with the inner orbits above slightly whitish; antennæ of the male beneath fulvous, with the basal joint white, of the female involuted, with about the 10th to 13th joints white above and on the sides; thorax with a line or dot below the wings, and in the male a streak before them, white; metathorax, in this sex, often with 2 large yellow spots; scutellum white at the apex; abdomen with the basal segment black, its margin sometimes reddish, 3

next red, 5th also red, with the edge, and occasionally the sides, or the disc, black; 6th generally black, with the margins red, 7th black; legs with the coxæ black, anterior sometimes with a yellow spot in the male, trochanters the same; femora red or ferruginous, more or less black towards the base, 4 anterior yellowish beneath in the male; tibiæ red, posterior black at the apex, and sometimes the middle in the females, 4 anterior yellow beneath in the males; tarsi red, posterior black.

Not common: found in June within the metropolitan district.

Sp. 178. *arridens*. *Niger, abdomine rufo, basi nigrâ, pedibus rufis, coxis anterioribus flavis posticis supra nigris, facie lineâque ante alas flavis.* (Long. corp.  $2\frac{1}{4}$  lin.; Exp. Alar.  $4\frac{1}{2}$  lin.)

Ic. *arridens*. *Gravenhorst, i. 501.—Steph. Nomen. 2d edit. col. 136.*

Black: face and mouth pale yellow; antennæ with the basal joint yellow beneath, remainder dull ferruginous; thorax with a line before and dot below the wings; metathorax roughish; scutellum yellow; abdomen with the basal segment black, 2nd black, with the margin red, 3rd red, with a dusky spot on the back, remainder red, with the terminal one dusky; legs pale red, 4 anterior with the coxæ and trochanters pale yellow, posterior coxæ black above, tarsi brownish.

Scarce: taken near London in July.

Sp. 179. *tringulatus*. *Niger, segmentis 1-3 castaneo marginatis, femoribus tibiisque rufis, posticis apice nigris, lineolâ infra alas facieque albis, hoc puncto centrali nigro.* (Long. corp. 3 lin.; Exp. Alar.  $5\frac{1}{2}$  lin.)

Ic. *tringulatus*. *Gravenhorst, i. 505.—Steph. Nomen. 2d edit. col. 136.*

Black: mouth, face, and part of the outer orbits pale yellow, the face with a black dot; antennæ porrect, the basal joint pale yellow beneath; thorax with a white line below the wings; scutellum also white; abdomen lanceolate, black, with the margin of the 3 basal segments more or less, and the base of the 2nd, chestnut or reddish; legs red, coxæ and trochanters black, 4 anterior with a white dot beneath; apex of the posterior femora and tibiæ, and the tarsi above dusky or black.

Found near London, in June.

Sp. 180. *albicinctus*. *Niger, abdomine rufo, segmento 1 nigro, femoribus rufis, posticis geniculo nigro, tibiis anterioribus rufis, posticis nigris annulo albo: mas facie lineâque ante alas albis; fœmina annulo antennarum albo.* (Long. corp.  $2\frac{1}{2}$ — $3\frac{3}{4}$  lin.; Exp. Alar. 5—6 lin.)

Ic. *albicinctus*. *Gravenhorst, i. 509.—Steph. Nomen. 2d edit. col. 136.*

Black: male with the face rather prominent, red, with the mouth, cheeks, inner and upper orbits yellow-white; female with the mouth red, inner or frontal orbits white; antennæ ferruginous beneath, with the basal joint whitish, or, in the female, involuted, with the 1st joint beneath red, the 9th to 13th white; thorax with the upper and lateral margins of the neck, a transverse streak below the scutellum, and generally a dot beneath the wings and 2 minute ones on the metathorax whitish; of the female imma-



culate; scutellum white, but at the tip only in the female; abdomen red, basal segment black, its margin red or pale; ovipositor slightly exerted; in the male the 2 or 3 terminal segments are sometimes fuscous; 4 anterior legs red, coxæ and trochanters yellowish, black in the female, femora with a fuscous spot above at the base, middle tibiæ whitish at the base; posterior legs black, the femora more or less red, and the tibiæ white at the base; wings subhyaline; cellule nearly 3-angular.

Rather uncommon; found at Darenth wood in June.

Sp. 181. *culpatorius*. *Niger, segmentis 2 et 3 rufis, tibiis sordide flavis aut rufescentibus, posticis apice nigro: mas facie et punctis ad alarum radicem albis; fœmina antennarum annulo albo.* (Long. corp.  $4\frac{1}{2}$ —6 lin.; Exp. Alar. 9—10 lin.)

Ic. *culpatorius*. *Fabricius*.—Ic. *sputator*  $\beta$ ? *Steph. Catal.* 347. No. 4371.

Black: face and orbits white, or in the female the inner orbits and mouth ferruginous; antennæ porrect, fuscous, beneath fulvous, with the basal joint white, or convoluted, with about the first 5 black, 3 following ferruginous, the 7th to 15th yellowish-white, the 1st reddish beneath; thorax with 2 yellowish-white dots at the base of the wings scutellum of that colour, but yellow in the female; abdomen with the 2nd and 3rd segments rusty-red, the basal angles of the 4th occasionally the same, 7th more or less fuscous; legs slender in the male, 4 anterior flavescent, coxæ and trochanters, and sometimes the outer margin of the femora black; posterior black, with the extreme base of the femora fulvous, tibiæ flavescent, with the apex black; female with the anterior femora reddish, more or less black at the base; tibiæ reddish, with the tip ferruginous or black.

Not uncommon; found at Darenth and in other metropolitan woods, about the end of June.

Sp. 182. *amputatorius*. *Niger, segmentis 2 et 3, femoribus tibiisque rufis: mas punctis 2-bus ad radicem alarum; fœmina puncto infrâ alas et antennarum annulo albis.* (Long. corp. 6— $7\frac{1}{2}$  lin.; Exp. Alar. 11 lin.)

Ic. *amputatorius*. *Gravenhorst*, i. 523.—*Steph. Nomen.* 2d edit. col. 136.

Black: antennæ porrect, slightly incurved at the tip, with the basal joint sometimes rusty beneath, of the female about the 8th to 14th white; thorax with a white line before and another beneath the wings, the latter only present in the female; scutellum white; abdomen oblong ovate, a little compressed at the apex in the female, in which sex the basal segment is occasionally slightly rusty anteriorly, the 2nd and 3rd red, the last, sometimes, in the female with a dusky cloud, 4th, rarely, with the basal angles on the extreme margins reddish; legs fulvous, or red, with the coxæ and trochanters black, the hinder coxæ of the male sometimes with 1 or 2 white dots, and the tibiæ in that sex occasionally pale yellowish, with the tip fulvous; posterior tarsi mostly black.

Scarce: taken in June near London.

§ IX. *Scutellum* black : *abdomen* either entirely red, or red and black.

Sp. 183. *fumigator*. *Niger, segmentis 2 et 3 rufis*. (Long. corp. 6—7¼ lin. ; Exp. Alar. 10—11½ lin.)

Ic. *fumigator*. *Gravenhorst*.—*Steph. Catal.* 347. No. 4375.

Black : *antennæ* porrect, involuted in the female, and with the middle joints beneath sometimes fuscous; *thorax* with 2 minute spines behind; *abdomen* ovate in the female, narrower in the male, 1st segment black, with 2 elevated lines, 2nd and 3rd red or fulvous, remainder black; legs black; anterior *tibiæ* straw-coloured within in the male, 4 posterior black, or fuscous, paler within; of the female the anterior are red within, and the 4 posterior fuscous; wings smoky-hyaline; cellule 5-angular.

Not very common: found near London, at Darenth wood, and in the New Forest.

Sp. 184. *hæmorrhoidalis*. *Niger, abdomine rufo, segmento 1 nec non maculâ dorsali segmentorum 3-6 nigris*. (Long. corp. 5—7½ lin. ; Exp. Alar. 9—11 lin.)

Ic. *hæmorrhoidalis*. *Gravenhorst*.—*Steph. Catal.* 347. No. 4366.

Black: mouth and face white, the last with a longitudinal black streak, or the inner orbits alone white; *antennæ* porrect, sometimes fuscous beneath; *thorax* with a white dot before the wings; *scutellum* frequently with 2 very minute approximating white dots at the apex; *abdomen* rather depressed, finely punctured, basal segment black, occasionally with a red dot at the apex, 2nd entirely red, 4 following red, with a quadrate black spot on the disc of each, extending from the base nearly to the extreme margin, 7th entirely red; legs black, anterior femora and *tibiæ* more or less straw-coloured in front, posterior pair reddish at the base within; wings smoky-hyaline.

The 2nd segment of the *abdomen* has, rarely however, a black dorsal patch.

More abundant than the foregoing: taken at Darenth wood in June.

Sp. 185. *melanopyrrhus*. *Niger, ore, orbitisque oculorum facialibus albidis, abdominis apice pedibusque rufis*. (Long. corp. 7½ lin. ; Exp. Alar. 11½ lin.)

Ic. *melanopyrrhus*. *Steph. Nomen. 2d edit. Appendix*.

Black: mouth and facial orbits whitish; *thorax* with a white dot at the base of the wings; *abdomen* rather slender, the 3 basal segments black, the margin of the 3rd red, 4th black at the base, its apex and all the following segments bright rusty-red; legs with all the *coxæ* and *trochanters* black; the femora, *tibiæ*, and *tarsi* red, the hinder *tarsi* fuscous above; wings hyaline, with black nervures and stigma; *antennæ* porrect.

Found in June, near London.

Sp. 186. *sputator*. *Niger, coxis posticis maculis segmentis 2 et 3 tibiisque rufis, antennarum annulo albo*. (Long. corp. 5½—7¼ lin. ; Exp. Alar. 9—10½ lin.)



Ic. sputator. *Fabricius*.—*Steph. Catal.* 349. No. 4371.

Black: antennæ curved at the tip in the female, with about the 8th to 14th joints white above, and in the male with a white dot on the 11th and 12th; thorax immaculate; abdomen variable, the 2nd and 3rd segments red or chestnut, the base of the former and margin of the latter being sometimes black, or the former is occasionally black, with the margin red, and the 3rd red, with 2 black dorsal spots; legs black, the anterior femora red at the tip, and the 4 anterior tibiæ red, dusky towards the apex; posterior red, with the tip black; hinder coxæ neither armed with tubercle nor spines.

Scarce: found at Darenth wood, in the beginning of June.

Sp. 187. culpator. *Niger, coxis posticis calcaratis, segmentis 2 et 3 tibiisque castaneis aut rufis, antennarum annulo albo.* (Long. corp. 5—7 lin.; Exp. Alar. 9—10½ lin.)

Ic. culpator. *Schranck*.—*Steph. Catal.* 347. No. 4374.

Black: antennæ curved at the tip, with about the 9th to 14th joints white above; abdomen rather obtuse at the apex, the 2nd and 3rd segments chestnut, or dull red; legs black, 4 anterior femora at the tip testaceous or reddish, tibiæ dull red or chestnut, 4 anterior fulvous beneath, posterior sometimes with the tip blackish; posterior coxæ beneath armed with a short robust obtuse tooth; wings smoky-hyaline.

Taken at Coombe and Darenth woods in June.

Sp. 188. procerus. *Niger, segmentis 2 et 3 nec non lateribus 4-ti rufis.* (Long. corp. 4 lin.; Exp. Alar. 7½ lin.)

Ic. procerus. *Gravenhorst*, i. 550.—*Steph. Nomen.* 2d edit. col. 136.

Black: inner orbits faintly whitish; antennæ rather ferruginous towards the apex; abdomen with the 2nd and 3rd segments entirely, and the sides of the 4th, red, the basal segment rather smooth and narrow; legs black; anterior femora rusty beneath, tibiæ entirely ferruginous, or with one side fuscous, the other somewhat testaceous, the extreme tip of the middle femora and the inner edge of their tibiæ ferruginous; cellule irregularly 5-angular.

Found, but very rarely, within the metropolitan district, in June.

Sp. 189. fugitivus. *Niger, abdomine castaneo basi nigrâ, pedum anteriorum tibiis femoribusque fulvis, his suprâ nigris, facie flavomaculatâ.* (Long. corp. 5 lin.; Exp. Alar. 9 lin.)

Ic. fugitivus. *Gravenhorst*, i. 552.—*Steph. Nomen.* 2d edit. col. 136.

Black: inner and outer orbits, 2 dots below the antennæ, and the mouth yellow; antennæ porrect, with the basal joint beneath sometimes yellow, and the remainder fuscous: thorax immaculate; abdomen with the basal segment black, 2nd black, with the tip chestnut, remainder chestnut, palest towards the apex; legs with stoutish femora, 4 anterior pale red, with the coxæ and trochanters, and more or less of the outer base of the femora, and the tarsi above black, posterior black, rusty towards the base; wings hyaline, a little smoky at the apex.

Rare : found near London, in the middle of June, and in Shropshire.

Sp. 190. *apricus*. *Niger, segmento 2-do nec non angulis baseos 3-tii castaneis, orbitis oculorum internis; punctoque infrà alas albidis.* (Long. corp.  $4\frac{1}{2}$  lin.; Exp. Alar. 6 lin.)

Ic. *apricus*. *Gravenhorst, i. 553.—Steph. Nomen. 2d edit. col. 136.*

Black : facial orbits, a transverse line on the clypeus, and dot beneath the antennæ white ; thorax with a dot below the wings and an obscure one before them white ; abdomen with the 2nd segment dull chestnut, and the basal angles of the 3rd the same ; legs with the anterior femora on one side entirely, and the middle pair at the apex, whitish, 4 anterior tibiæ whitish beneath, posterior fuscous towards the base ; wings smoky-hyaline ; cellule somewhat 3-angular.

Not common : found in June at Coombe wood.

Sp. 191. *melanocastanus*. *Niger, abdomine castaneo basi nigrâ, femoribus anterioribus rufis, maculâ nigrâ, tibiis anterioribus rufis; fœmina antennarum annulo albo.* (Long. corp.  $5-6\frac{1}{2}$  lin.; Exp. Alar. 9—11 lin.)

Ic. *melanocastanus*. *Gravenhorst.—Steph. Catal. 347. No. 4368.*

Black : antennæ porrect, incurved in the female, and with about the 8th to 14th joints white above, rusty beneath ; abdomen of the male narrower than the thorax, the margin of the 2nd segment chestnut, the 3rd fuscous, with the apex reddish, or entirely red, 4th to 6th entirely of a chestnut-red, or with 2 fuscous spots on the disc, 7th totally chestnut-red ; of the female as wide as the thorax, with the apex obtuse and faintly compressed, dull chestnut, with the 1st segment and base of the 2nd black ; legs with the coxæ and trochanters black ; 4 anterior femora generally red, with the base more or less black within, hinder pair black, rusty at the base ; 2 or 4 anterior tibiæ testaceous-red, with the tip of the middle pair dusky, posterior black, with the base ferruginous.

Sometimes all the femora are rusty-chestnut, with the base black.

Not uncommon, at Coombe and Darent wood, in June ; found also in other parts of the country, as the New Forest, &c.

Sp. 192. *castanopyga*. *Aterrimus, abdominis apice rufo-castaneo nitido : mas orbitis oculorum internis albis ; fœmina annulo antennarum albo.* (Long. corp. 5—6 lin.; Exp. Alar. 9— $10\frac{1}{2}$  lin.)

Ic. *castanopyga*. *Steph. Nomen. 2d edit. col. 137.*

Deep black : metathorax shagreened ; male with the inner orbits white ; antennæ porrect ; female with the antennæ incurved, and about the 9th to 15th joints white above ; thorax of the male with 3 irregular white spots and lines at the base of the wings ; abdomen with the 4 basal segments deep obscure black, the 3 apical ones bright glossy chestnut, of the female with the 2 basal segments deep black, the remainder chestnut-red ; legs in



both sexes deep black, extreme tips of the 4 anterior femora and inner margin of the tibiæ straw-coloured or tawny.

Very rare: the female I possess I took at Hertford in June; the male I obtained from Scotland.

Sp. 193. *castaniventris*. *Niger, abdomine rufo, segmento 1-mo nigro, tibiis rufis, posticis apice nigro, antennarum annulo albo: mas? orbitis oculorum albidis.* (Long. corp. 5—6 $\frac{1}{4}$  lin.; Exp. Alar. 9—10 lin.)

Ic. *castaniventris*. *Gravenhorst, i. 556.—Steph. Nomen. 2d edit. col. 137.*†

Black: male? with the inner orbits white; antennæ porrect; of the female involuted at the apex, with the 9th to 14th joints white above; thorax immaculate; abdomen red, with the basal segment black, and the apex occasionally more or less chestnut or red, the 2nd finely aciculated; legs moderate, the 4 anterior black, with the apex of the femora and the tibiæ beneath, more or less ferruginous; posterior black, with the tibiæ ferruginous, black at the tip, or red, with the coxæ and trochanters, and the apex of the femora and tibiæ black; wings hyaline or flavescent; cellule 3-angular.

Not very rare: taken at Darenth wood in the middle of June, and also in Devonshire.

Sp. 194. *pyrrhopus*. *Niger, orbitis oculorum internis albis, femoribus tibiisque rufis, horum posticorum apice nigro, abdomine rufo castaneo basi nigrâ.* (Long. corp. 6 lin.; Exp. Alar. 10—11 lin.)

Ic. *pyrrhopus*. *Steph. Nomen. 2d edit. col. 137.*

Black: antennæ porrect; facial orbits rather broadly white, palpi whitish; thorax with an obscure white dot before the wings; abdomen rather slender, the basal segment black, with its apex more or less reddish, the remaining segments chestnut-red; legs light red, with the coxæ, trochanters, and tips of the hinder pair of tibiæ, and the posterior tarsi black; wings hyaline; cellule 5-angular.

The 2nd and 3rd segments of the abdomen are sometimes slightly blackish on the disc, and the thorax immaculate.

Apparently very rare: taken near London and in Norfolk, in June.

Sp. 195. *albilarvatus*. *Niger, abdomine rufo basi nigrâ, tibiis anterioribus rufis, facie et annulo antennarum albis.* (Long. corp. 5—6 lin.; Exp. Alar. 9—10 $\frac{1}{2}$  lin.)

Ic. *albilarvatus*. *Gravenhorst.—Steph. Catal. 347. No. 4347.*

Black: face and mouth white; antennæ porrect, long, the basal joint white beneath, the 15th to 20th, or more, entirely white, the remainder generally ferruginous beneath; abdomen narrower than the thorax, the basal segment black, with 2 elevated lines, the 2nd red, with the base black, the 3rd and 4th either entirely red, or with the base dusky, the 2 following fuscous, with the margins red, or red, with the extreme base obscure, the

7th fuscous ; legs black ; 4 anterior with the tarsi, tibiæ, and femora red, the convex side of the last brownish, or black, with the femora testaceous beneath, the tibiæ and tarsi ferruginous below ; wings subhyaline ; cellule 5-angular.

Found, in June, at Darenth wood, in Shropshire, and in Scotland, apparently scarce.

Sp. 196. *gasterator*. *Niger, femorum anteriorum apice et latere interno, tibiisque anterioribus antice rufescentibus, abdomine rufo, annulo antennarum albo.* (Long. corp. 4—5 lin. ; Exp. Alar. 7—8 lin.)

Ic. *gasterator*. *Steph. Nomen. 2d edit. col. 137.*

Black : palpi fuscous ; mandibles pitchy ; abdomen bright red, the peduncle pitchy towards the base ; legs black, the tips of the 4 anterior femora and the anterior side of the 1st pair, and also of the 4 anterior tibiæ reddish ; 4 anterior tarsi rufescent ; antennæ involuted, with from about the 8th to 14th joints white.

Posterior tibiæ sometimes pitchy at the apex, and reddish at the base.

May not this be the female of the foregoing ?

Taken, not uncommonly, near London.

Sp. 197. *castaneus*. *Niger, abdomine pedibusque rufis, coxis et trochanteribus nigris, antennarum annulo albo, scutello rufescente.* (Long. corp.  $5\frac{1}{2}$  lin. ; Exp. Alar.  $9\frac{1}{2}$  lin.)

Ic. *castaneus*. *Gravenhorst, i. 558.—Steph. Nomen. 2d edit. col. 137.*

Black : frontal orbits faintly whitish, or testaceous ; antennæ incurved at the tip, black, with the 10th to 13th joints white, or with the 2 basal ones black, the 9th to 14th white, the remainder fuscous ; thorax with an obsolete spot before and another beneath the wings, with a streak below the scutellum, and the latter reddish, or ferruginous ; abdomen red, the 5th segment entirely black, or with its base chestnut, the 6th and 7th black ; legs red, with the coxæ and trochanters black, or with the anterior femora testaceous, the middle red, fuscous at the base within, hinder brown-black, with the base red ; tibiæ red, posterior brownish towards the apex.

Rare : taken at Darenth in June, and in Wilts ?

Sp. 198. *semivulpinus*. *Niger, coxis posticis calcaratis, segmentis 1-5 pedibusque rufis, coxis et trochanteribus nec non genibus posticis nigris, antennis 3-coloribus.* (Long. corp. 3 lin. ; Exp. Alar. 5 lin.)

Ic. *semivulpinus*. *Gravenhorst, i. 565.—Steph. Nomen. 2d edit. col. 137.*

Black : antennæ curved, the 2 basal joints fuscous, 4 following red, 3 next red-brown, 4 or 5 following white, remainder fuscous ; abdomen with the 1st to 5th segments fulvous or red, peduncle black ; legs red or fulvous, with the coxæ and trochanters black ; posterior coxæ armed with a long spur, the tips of their femora and of their tibiæ black or fuscous ; wings subhyaline.

Found in June near London, and in Norfolk : not common.



Sp. 199. *celerator*. *Niger, segmentis 1-4 pedibusque rufis, coxis et trochanteribus nec non geniculis posticis nigris, antennis tricoloribus.* (Long. corp.  $2\frac{1}{2}$ — $4\frac{1}{2}$  lin.; Exp. Alar. 4—6 lin.)

Ic. *celerator*. *Gravenhorst, i. 566.—Steph. Nomen. 2d edit. col. 137.*

Black: antennæ involuted at the tip, basal joint black or rusty, 3 or 4 following red, 4 next black-brown or rusty, 8th to 13th generally whitish above, rusty-brown below, remainder brown-black; sometimes the first 7 or 13 joints are red, the remainder black-brown; abdomen rather obtuse at the apex, basal segment black, with the margin red, 2nd to 4th red, remainder black; legs red, with the coxæ and trochanters, and apex of the hinder femora black, and occasionally the tips of the middle femora are dusky; the extreme tip of the hinder tibiæ and their tarsi are fuscous, the claws are all fuscous: the hinder femora are sometimes entirely red.

Not unfrequent in woods near London in June.

Sp. 200. *bellus*. *Niger, segmentis 2-4 pedibusque rufis, horum posticis geniculis, apice tibiæ, tarsisque nigris.* (Long. corp.  $3\frac{1}{2}$  lin.; Exp. Alar. 5 lin.)

Ic. *bellus*. *Gravenhorst, i. 571.—Steph. Nomen. 2d edit. col. 137.*

Black: antennæ curved, short, black, with the 6th to 9th joints white above and on the sides; abdomen very glossy, rather depressed and obtrigonal, basal segment black, with 2 longitudinal somewhat impressed lines, 2nd to 4th transverse, red, following black, the 6th and 7th with an obscure whitish patch on the back; legs moderate, the posterior with the apex of the femora and of the tibiæ, and the tarsi black; wings smoky-hyaline.

Scarce: found near London in July.

Sp. 201. *femorator*. *Niger, segmentis 1-4 tibiis femoribusque rufis, his posteriorum apice nigro, antennis 3-coloribus.* (Long. corp. 5 lin.; Exp. Alar.  $7\frac{1}{2}$  lin.)

Ic. *femorator*. *Steph. Nomen. 2d edit. col. 137.*

Black: palpi pale; mandibles pitchy; antennæ incurved, the basal joint black, the 7 following red, 6 next white, the remainder black; abdomen rather slender, the 4 basal segments bright red, the 3 following black, with a reddish tinge on the margin of the 5th; legs bright red, with the coxæ and trochanters black, the hinder femora broadly black towards the apex, and their tibiæ slightly so at the extreme tip, posterior tarsi blackish above; wings yellowish-hyaline.

Taken near London, in June.

Sp. 202. *latrator*. *Niger, segmentis 2-4 rufis, pedibus anterioribus rufis, coxis nigris, posticis nigris tibiis et tarsorum articulis rufis, apice nigro, stigmatibus fulvo: femina annulo antennarum albo.* (Long. corp. 3— $5\frac{1}{4}$  lin.; Exp. Alar.  $4\frac{1}{2}$  lin.)

Ic. *latrator*. *Gravenhorst, i. 572.—Steph. Nomen. 2d edit. col. 137.*

Black: palpi pale; mandibles testaceous, clypeus sometimes with a yellow or

red lateral spot; female with the inner orbits alone slightly yellowish; antennæ of the male porrect, reddish beneath, with the base black; of the female involuted, the basal joint beneath ferruginous, 8th to 13th white on the sides; abdomen of the male narrower than the thorax; of the female as wide as the thorax, basal segment black, the apex sometimes with a reddish margin or spot, 2nd and 4th red, or fulvous, the latter in the female dusky on the margin, the disc as well as the margin sometimes black in the male; legs moderate, 4 anterior red, with the coxæ and trochanters black, the middle trochanters sometimes red, and their femora with a black streak on the inner base; posterior black, coxæ occasionally with the tip obscurely reddish, and the trochanters at times red, the femora of the male red at the base, the tibiæ and the base of the terminal joints red, the tips of the latter black.

The face of the male is sometimes spotted with yellow, and the abdomen has occasionally the 2nd to 5th segments red.

Widely diffused and not uncommon: I have taken it at the beginning of June and in August, at Darenth, Charlton, Hampstead, and Dover.

Sp. 203. *rufator*. *Niger, segmentis 2-5, tibiisque anterioribus rufis, antennis subtus ferrugineis.* (Long. corp. 5 lin.; Exp. Alar.  $7\frac{1}{2}$  lin.)

Ic. *rufator*. *Steph. Nomen. 2d edit. col. 137.*

Black: antennæ ferruginous beneath; abdomen rather slender, the 2nd to 5th segments bright red, and the margin of the 6th reddish; anterior legs red, with the coxæ and trochanters black, middle pair, also with the coxæ and trochanters black, femora red, blackish at the base behind, tibiæ red, palest in front, tarsi red; posterior pair with the coxæ and trochanters black, the last red at the tip; femora black, red at the extreme base; tibiæ and tarsi fuscous, the former reddish towards the base exteriorly; wings hyaline.

Taken, but very rarely, in the vicinity of London, in June.

Sp. 204. *confector*. *Niger, segmentis 1-4 pedibusque rufis, antennis 3-coloribus.* (Long. corp.  $2\frac{3}{4}$ — $3\frac{1}{2}$  lin.; Exp. Alar. 4— $5\frac{1}{2}$  lin.)

Ic. *confector*. *Gravenhorst, i. 579.—Steph. Nomen. 2d edit. col. 137.*

Black: antennæ with the 1st to 5th joints red, or rusty-brown, 6th to 9th brown, 10th and 11th dull white, with the sides rusty, beneath brown, remainder also brown; abdomen with the 4 basal segments red, or slightly chestnut; legs red, posterior occasionally with the tips of the femora and of the tibiæ black; wings smoky-hyaline; cellule 5-angular.

Taken in August 1834, in the gardens of the Hermitage.

Sp. 205. *guttulatus*. *Niger, segmentis 1-4 pedibusque rufis, punctis 2-bus ad alarum radicem annuloque antennarum albis.* (Long. corp.  $3\frac{1}{4}$  lin.; Exp. Alar.  $5\frac{1}{2}$  lin.)

Ic. *guttulatus*. *Gravenhorst, i. 580.—Steph. Nomen. 2d edit. col. 137.*



Black: mandibles and palpi ferruginous; antennæ slender, curved, 8 basal joints black, ferruginous beneath, the 9th to 11th whitish, the remainder rusty-brown; thorax generally with a white dot before and another below the wings; abdomen as wide as the thorax, with the 4 basal segments red, the peduncle and other segments black; legs rather slender, red, the coxæ black at the base, and the hinder tarsi fuscous.

Found at Coombe wood, in June.

Sp. 206. *melanogonus*. *Niger, coxis posticis calcaratis, abdomine rufo, apice nigro, pedibus rufis, posticis geniculis nigris, antennis 3-coloribus*. (Long. corp. 2—3¼ lin.; Exp. Alar. 3½—5½ lin.)

Ic. *melagonus*. *Gravenhorst*, i. 581.—*Steph. Nomen*. 2d edit. col. 137.

Black: palpi pale; mandibles red, black at the tip; antennæ involuted, 6 basal joints rusty-red, the first 2 sometimes fuscous above, 7th to 9th fuscous or rusty, or fuscous above and rusty beneath, 9th sometimes, and 3 or 4 following generally, white, mostly fuscous below, remainder fuscous; abdomen with the basal segment red, peduncle more or less black, 2nd to 4th segments red, the margin of the latter occasionally black; ovipositor slightly exserted; legs red; posterior coxæ armed beneath with a short acute tooth, the tips of their femora and tibiæ black, and the 4 anterior coxæ and trochanters yellowish.

Variable in colour, the antennæ being rather dissimilar in different individuals, and the abdomen having sometimes the basal segment alone, or that and the 2 or 3 apical ones black: the tooth on the posterior coxæ also varies in length.

Taken at Coombe and Darenth wood in June and July.

Sp. 207. *Troglodytes*. *Niger, abdomine rufo basi nigra, pedibus rufis, posticis coxis femoribusque nigris, antennis subalbo annulatis*. (Long. corp. 2—2½ lin.; Exp. Alar. 3—4 lin.)

Ic. *Troglodytes*. *Gravenhorst*, i. 587.—*Steph. Nomen*. 2d edit. col. 137.

Black: antennæ involuted, ferruginous, the 2 basal joints black, 7th to 9th fuscous, 10th and 11th whitish, fuscous beneath, remainder red beneath; abdomen red, with the basal segment very smooth and black; ovipositor very short and exserted, black; legs moderate, 4 anterior red, posterior black, with the tips of the trochanters red, tibiæ testaceous-red, with the apex dusky; wings smoky-hyaline, iridescent.

Found near Hertford, and at Darenth wood, not common.

Sp. 208. *abdominator*. *Niger, antennis, pedibus abdomineque, basi excepto, rufis, coxis posticis basi fusco*. (Long. corp. 4½ lin.; Exp. Alar. 7 lin.)

Ic. *abdominator*. *Steph. Nomen*. 2d edit. col. 137.

Black: palpi pale, mandibles reddish; antennæ curved, rusty-red, with the basal joint dusky above; abdomen bright red, the basal segment black; legs pale red, 4 anterior trochanters yellowish; posterior coxæ fuscous at

the base and at the apex, trochanters clear red, femora dusky red, tibiæ pale red; tarsi brownish above; wings yellowish-hyaline.

Also rare, and found in June, near London.

Sp. 209. parvulus. *Niger, segmentis 2 et 3 femoribus tibiisque rufis.* (Long. corp. 2 lin.; Exp. Alar.  $3\frac{1}{4}$  lin.)

Ic. parvulus. *Gravenhorst, i. 591.—Steph. Nomen. 2d edit. col. 137.*

Black: abdomen oblong-ovate, as wide and as long as the head and thorax, the 2nd segment entirely, and the base and sides of the 3rd, red; legs red, with the coxæ and trochanters black; wings narrow, smoky-hyaline; cellule somewhat 5-angular.

Not common; found in June within the metropolitan district.

Sp. 210. opprimator. *Niger, segmentis 2-4 rufis, pedibus rufis, posticis nigro maculatis: mas ore et antennis subtus fulvis; fœmina antennis basin versus rufis.* (Long. corp.  $2\frac{1}{4}$ —3 lin.; Exp. Alar. 4— $5\frac{1}{4}$  lin.)

Ic. opprimator. *Gravenhorst, i. 595.—Steph. Nomen. 2d edit. col. 137.*

Black: male with the mouth fulvous, and the antennæ porrect and fuscous, beneath fulvous; of the female with the 2nd to 5th joints red, remainder fuscous; abdomen with the basal segment black, with its tip reddish, 3 following red, the margin of the 3rd often black; legs red, posterior with the coxæ generally black at the base, rarely entirely red, or totally black, femora either red, with the apex black, or black, with the base red; tibiæ black at the tip: all the coxæ, and the middle trochanters and femora, are sometimes black at the base.

Taken, but not commonly, in the vicinity of London, in June.

Sp. 211. ruficoxatus. *Niger, segmentis 1-3 coxisque rufis.* (Long. corp.  $2\frac{1}{4}$ —3 lin.; Exp. Alar.  $3\frac{1}{2}$ — $4\frac{1}{2}$  lin.)

Ic. ruficoxatus. *Gravenhorst, i. 597.—Steph. Nomen. 2d edit. col. 137.*

Black: antennæ curved, rusty-brown, with the basal joint black; abdomen with the 3 basal segments red, or chestnut-red, rarely fulvous, or with the base of the 4th segment red; legs with the coxæ chestnut-red, the trochanters either red, or with the base black; 4 anterior femora either red, black at the base above, or black, with the extreme base and apex, and the lower side, red, the middle pair being generally more black; posterior either totally black, or with the extreme base red; 4 anterior tibiæ either entirely red, with the outer side fuscous, or black, with the inner edge fulvous; posterior either red, with the apex black, or black, more or less ferruginous towards the base; tarsi rusty-brown, anterior palest.

Found at Hertford, in June.

Sp. 212. mutabilis. *Niger, segmentis 2-4 rufis, femoribus tibiisque anterioribus nec non tibiarum posticarum medio, rufis, stigmatibus alarum fusco.* (Long. corp. 3—4 lin.; Exp. Alar. 5— $6\frac{1}{2}$  lin.)

Ic. mutabilis. *Gravenhorst, i. 599.—Steph. Nomen. 2d edit. col. 137.*



Black: antennæ fulvous beneath, with from 1 to 3 of the basal joints black; abdomen with the 2nd to 4th segments red, the 2nd and 4th sometimes with a blackish spot on the back, 5th generally quite black, or with the extreme margins, or 2 spots at the base reddish, or chestnut; legs moderate, 4 anterior pale red, or fulvous, with the coxæ and trochanters black, these last occasionally fulvous beneath, the middle femora often fuscous without, and their tibiæ at times yellowish beneath; posterior black, with the extreme base of the femora ferruginous, and the tibiæ mostly reddish in the middle: the anterior femora are sometimes black towards the base; wings smoky-hyaline, with the stigma fuscous.

Also found in June near Hertford, and in the vicinity of London.

Sp. 213. *rufilimbatus*. *Niger, segmentis 2—4 rufis, maculâ dorsali nigrâ, ore nec non latere infero femorum et tibiæ anticorum flavis.* (Long. corp. 3 lin.; Exp. Alar. 5 lin.)

Ic. *rufilimbatus*. *Gravenhorst, i. 603.—Steph. Nomen. 2d edit. col. 137.*

Black: mouth, clypeus, and a dot on the inner orbits yellow; antennæ beneath with the basal joint yellow, the remainder rusty-brown; abdomen with the 2nd and 3rd segments red, with a large dorsal spot, 4th with all the margins, and 5th with the dorsal edge red; legs black, anterior with the tibiæ and tarsi, and the lower edge and tip of the femora testaceous or yellow; middle with the apex of the femora and sides of the tibiæ testaceous, the extreme base of the hinder femora and of their tibiæ reddish; wings somewhat hyaline, iridescent.

Scarce: found near London in June.

Sp. 214. *mitigosus*. *Niger, segmentis 2 et 3 totis, sequentibus margine, rufis, tibiis rufis.* (Long. corp. 2½ lin.; Exp. Alar. 4¼ lin.)

Ic. *mitigosus*. *Gravenhorst, i. 604.—Steph. Nomen. 2d edit. col. 137.*

Black: antennæ ferruginous beneath, with the 2 basal joints entirely black; abdomen with the 2nd and 3rd segments red, with the sides and extreme margins of the 4th, and the edges of the following red; the 2nd occasionally with a black transverse fascia; legs with the 4 anterior femora fulvous, with the coxæ, trochanters, and the convex side of the femora at the base black; posterior black, with the extreme base of the femora and the tibiæ red, the latter black at the tip, and at the extreme base.

Taken at Hertford and at Coombe wood, in June.

Sp. 215. *picipes*. *Niger, pedibus abdominisque basi piceo-rufis, hoc apice castaneo-nigro, antennarum annulo albo.* (Long. corp. 2½ lin.; Exp. Alar. 4 lin.)

Ic. *picipes*. *Steph. Nomen. 2d edit. col. 137.*

Black: palpi and mandibles reddish; antennæ pitchy, with about the 10th to 14th joints white; abdomen with the 4 basal segments light pitchy-red, the 3 terminal ones pitchy-black, faintly edged with a lighter tint; anterior legs,

including the coxæ and trochanters, pale pitchy-red, posterior pair dark pitchy, their coxæ faintly spurred; wings hyaline.

Found near London, in June.

§ X. *Scutellum* black; *abdomen* of three colours.

Sp. 216. *tergenus*. *Niger, abdomine rufo, apice nigro, ano albo: fœmina annulo antennarum albo.* (Long. corp. 4—5 lin.; Exp. Alar. 6—8½ lin.)

Ic. *tergenus*. *Gravenhorst*, i. 615.—*Steph. Nomen*. 2d edit. col. 137.

Black: male with the antennæ porrect, female involuted, with about the 9th to 14th joints white; abdomen oblong-ovate, the 3 basal segments red or chestnut, the 4th entirely black, or with the base more or less red, and the margin in the male whitish, and reddish in the female, 5th black, with the margins in the male whitish, 6th and 7th also black, with a white dorsal spot, or a dot only in the female; legs moderate, black, the anterior femora at the extreme tip and the tibiæ within flavescens, the middle tibiæ and tarsi fuscous, the hinder tibiæ in the middle dull ferruginous.

Not common: taken occasionally in July and August within the metropolitan district, and in Salop.

Sp. 217. *incubitor*. *Niger, abdomine rufo, apice nigro, ano albo, femoribus et tibiis rufis, annulo antennarum albo.* (Long. corp. 2½—3½ lin.; Exp. Alar. 4—5½ lin.)

Ic. *incubitor*. *Linné?*—Cr. *incubitor*. *Steph. Catal.* 345. No. 4111.

Black: palpi fuscous; mandibles rusty; occipital orbits faintly white, or with a white dot; antennæ with the apex curved, the 8th to about the 13th joints white above; abdomen oblong-ovate, the 3 basal segments red or fulvous, 4th either black, or black, with the basal angle red, or entirely red, 6th with a marginal white spot or dot, 7th with the back totally white; legs rather stout, red, coxæ and trochanters black, posterior tibiæ black at the tip, femora occasionally with a fuscous or black cloud towards the inner base.

Scarce: found near London in June.

Sp. 218.  *analis*. *Niger, abdomine rufo, apice nigro, ano albo, tibiis femoribusque rufis, horum posticis apice nigro, antennis tricoloribus.* (Long. corp. 3—4 lin.; Exp. Alar. 4½—6 lin.)

Ic.  *analis*. *Gravenhorst*, i. 621.—*Steph. Nomen*. 2d edit. col. 137.

Black: antennæ with the 1st to 8th joints red, 9th to 12th whitish, remainder brown; abdomen with the 3 basal segments red, remainder black, the 6th and 7th with the back white; legs red; coxæ black, anterior pair beneath red; trochanters black, red at the tip; posterior femora black, with the base red, or red, with the extreme tip black; wings somewhat smoky-hyaline; cellule 5-angular.

Also scarce, and found within the metropolitan district, in July.



Sp. 219. *crassipes*. *Niger, abdomine rufo, apice nigro, ano albo, pedibus rufis, posticorum femoribus apice nigris, antennis 3-coloribus.* (Long. corp.  $2\frac{1}{2}$ — $3\frac{1}{2}$  lin.; Exp. Alar. 4— $5\frac{1}{4}$  lin.)

Ic. *crassipes*. *Gmelin.—Steph. Nomen. 2d edit. col. 137.*

Black: palpi and mandibles fuscous or reddish; labrum, a spot on the face and inner orbits sometimes reddish; abdomen with the 3 basal segments red, the 4th either entirely, or the base and sides, red, the 6th black, mostly white on the back, the 7th above white; legs rather short, red, with the tips of the hinder femora and tibiæ black.

Obtained from Mr. Haworth's cabinet: taken, however, in June, near London.

§ XI. *Thorax* and *scutellum* varied with red and white; *abdomen* of 2 or 3 colours, apex generally white.

Sp. 220. *erythræus*. *Rufus, abdominis apice nigro, ano albo, femoribus nigris, scutelli apice et antennarum annulo albis.* (Long. corp. 3—4 lin.; Exp. Alar. 5—7 lin.)

Ic. *erythræus*. *Gravenhorst, i. 632.—Steph. Nomen. 2d edit. col. 137.*

Red: head black, crown reddish; face more or less rufescent, edged with black; orbits whitish or testaceous; palpi pale, mandibles red; antennæ rather slender, incurved, fuscous, the 10th to 14th joints, or less, white above, with a fuscous dot, the remainder red beneath; thorax with the breast, the margin of the scutellum, and an obscure dorsal line on the disc black, a transverse streak below the scutellum, and 2 obscure dots at the base of the wings white; scutellum white at the tip; abdomen with the apex of the 4th segment, the 5th and 6th, except sometimes a white marginal dot, black, 7th white above; legs with the coxæ either entirely red, or more or less varied with black and white; trochanters black, tipped with white; femora black, 4 anterior more or less rusty in front; tibiæ fuscous, streaked in front, and the posterior chestnut towards the apex; tarsi fuscous; wings subhyaline; cellule somewhat 3-angular.

Very scarce: taken in June, near London.

Sp. 221. *ruficeps*. *Rufus, thorace nigro, dorso et scutello rufis, ano et antennarum annulo albis.* (Long. corp. 4 lin.; Exp. Alar. 6 lin.)

Ic. *ruficeps*. *Gravenhorst, i. 633.—Steph. Nomen. 2d edit. col. 137.*

Red: mouth straw-colour; thorax black, with its disc and part of the meta-thorax chestnut-red, the margins of the collar and streak beneath the scutellum red; scutellum itself red; abdomen with the 4th to 6th segments fuscous, somewhat chestnut on the back, 7th fuscous, with the back white; ovipositor slightly exerted; legs red, posterior coxæ black, with a red dot; wings somewhat hyaline; cellule rather 3-angular.

Very rare: found near London, in July.

Sp. 222. *ruficollis*. *Rufus, capite postice, metathorace supra, pectore, femoribus,*

*tibiis posticis abdominisque apice nigris, annulo antennarum anoque albis.*  
(Long. corp.  $4\frac{1}{2}$  lin.; Exp. Alar.  $6\frac{1}{2}$  lin.)

Ic. ruficollis. Steph. Nomen. 2d edit. col. 137. †

Red: head black behind; palpi reddish; antennæ incurved, black, with about the 10th to 13th joints white; thorax bright red, with a black spot on each side below the wings; metathorax above, or region of the scutellum black, the declining portion red; scutellum and a line below also red; abdomen with the 3 basal segments and the anterior angles of the 4th, the 5th totally black, 6th and 7th black, with a large white dorsal spot; ovipositor slightly exserted, black; legs with the coxæ, trochanters, and femora black, the 2 anterior pair of the latter at the apex, the 2 anterior tibiæ in front, and the 2 middle ones towards the base reddish: the extreme base of the hinder femora and the 4 anterior tarsi also red; wings smoky-hyaline.

Rare: taken in June at Hertford.

Sp. 223. rufescens. *Pallide rufus, orbitis oculorum lineâ ante alas et puncto ad alarum radicem albis, metathorace et capite postice nigris, antennarum annulo albo.* (Long. corp. 4 lin.; Exp. Alar. 7 lin.)

Ic. rufescens. Steph. Nomen. 2d edit. col. 137.

Pale red: head black behind; orbits white, slightly interrupted externally; antennæ black, with about the 10th to 16th joints white; thorax with a white streak, extending from the wings to the anterior edge of the collar, and a spot beneath the wings of the same; metathorax black, with 2 red spots; scutellum red; abdomen the same, fuscous towards the apex; ovipositor exserted, fuscous; legs, including the coxæ and trochanters, pale red, the tips of the hinder tibiæ and of their tarsi fuscous.

Found in June, near London.

## GENUS XL.—ISCHNUS, Gravenhorst.

*Antennæ* generally slender, porrect, but rarely curved in the males, usually so in the females, and shorter than in the males, and a little thickened occasionally; *head* transverse, narrowed behind; *thorax* slightly gibbous; *scutellum* slightly convex; *abdomen* very slender and somewhat cylindric, its basal segment rather convex anteriorly and smooth, the peduncle linear, not much narrower than the anterior portion of the segment, and about as long; *ovipositor* a little exserted; *wings* moderate; *cellule* somewhat triangularly-pentangular: *legs* slender and considerably elongated.

The genus *Ischnus*, or at least British species thereof, may be known by their great resemblance to those of the preceding genus, combined with the length and slenderness of the antennæ and legs, and also of the abdomen, this last being in general ornamented with divers coloured rings, and its basal segment being smooth, instead of rugged, as in *Ichneumon*.



Sp. 1. porrectorius. *Niger, segmentis intermediis rufis, basi nigrá, margine albido, pedibus rufis, coxis albo nigroque maculatis, tibiis posticis apice nigro, scutello antennarum annulo, maculisque thoracis et capitis albis.* (Long. corp.  $3\frac{1}{2}$ —5 lin.; Exp. Alar.  $4\frac{1}{2}$  lin.)

Ic. porrectorius. *Fabricius*.—*Isch. porrectorius. Steph. Nomen. 2d edit. col. 137.*

Black: palpi long, pale straw-colour; clypeus, orbits, genæ, and the face more or less whitish-yellow; antennæ with the 2 basal joints fulvous beneath, about the 15th to 18th white; thorax with the margins of the neck, the lateral edges of the collar, 2 dots or longitudinal lines on its base, a dot beneath the wings, 2 behind, 2 others between the anterior and middle coxæ, a streak behind the scutellum, and a spot on the metathorax, and the scutellum yellow-white; abdomen with the basal segment black, white at the tip, the 4 next red, with their margins white, and their base frequently black, the remainder black, with the margins faintly palish; legs slender, long, 4 anterior pair testaceous, the coxæ and trochanters white, the former below and with a spot exteriorly and on the trochanters black; posterior testaceous, with the coxæ and trochanters black, and sometimes with a white apical dot; tarsi fuscous, with the 2-4 joints white.

The white ring on the antennæ is sometimes wanting.

Not very common: taken at Darenth wood, near Hertford, and in Norfolk, in June and July.

Sp. 2. sannio. *Niger, segmentis anterioribus testaceo-marginatis, tibiis femoribusque rufis, posticis apice nigricante, scutello, maculis capitis thoracisque annulo antennarum et tarsorum posticorum albis.* (Long. corp.  $3\frac{1}{2}$ —4 lin.; Exp. Alar. 6 lin.)

Isc. sannio. *Gravenhorst, i. 646.—Steph. Nomen. 2d edit. col. 137.*

Black: mouth, orbits, and facial spots whitish-yellow; mandibles black at the tip; antennæ with the basal joint ferruginous beneath, the 15th to 17th white; thorax with the margin of the neck, a line before the wings, one beneath the anterior pair, and another below the posterior, a transverse line under the scutellum, and a large transverse trilobed spot at the base of the petiole, and the scutellum, white; abdomen with the margins of the 3 basal segments reddish-white, the 4th and 5th with their edge obscurely reddish; legs fulvous, with the 4 anterior coxæ black, and their trochanters yellow, with the base fuscous; posterior coxæ black, their trochanters black, with the tip ferruginous; posterior femora fuscous, with the base ferruginous; tibia black at the tip, tarsi whitish, with the 1st and 5th joints fuscous.

Taken with the preceding, of which it may prove a variety.

#### GENUS XLI.—STILPNUS, *Gravenhorst*.

*Antennæ* moderate, or short, porrect, sometimes curved at the tip, rather stout, composed of 16 to 20 joints; *head* short, transverse; *eyes* oval, prominent;

*thorax* rather gibbous: *scutellum* convex: *abdomen* depressed, very smooth, and glossy, somewhat orbiculate in the females, and as wide as the thorax; the basal segment linear, narrower than the remainder, its anterior portion rather broader than the peduncle, which has 2 lateral tubercles placed before the middle: *ovipositor* scarcely exerted: *wings* ample; *cellule* 5-angular, the outer nervure wanting, and thus rendering the cellule open, and from its hinder angle arises the mere rudiment of the lower nervure: *legs* slender, short.

This genus, which appears to be closely allied to *Hemiteles*, may be instantly recognized from the other genera of this family by having a 5-angled cellule, the outer nervure of which is wanting, so as to render the cellule open; the nervure of the inferior angle is also wanting, so that the hinder portion of the hinder wing is nerveless.

Sp. 1. *deplanatus*. *Niger, femoribus tibiisque rufis*. (Long. corp.  $1\frac{1}{2}$ —2 lin.; Exp. Alar. 3—4 lin.)

St. *deplanatus*. *Gravenhorst*, i. 667.—*Steph. Nomen*. 2d edit. col. 137.

Black: abdomen orbiculate-ovate, with the basal segment a little dilated towards the apex; legs red, with the coxæ and trochanters black; wings hyaline, iridescent.

Rare: taken near London, in June.

Sp. 2. *gagates*. *Niger, pedibus fulvis, coxis nigris, antennæ basin versus rufis*. (Long. corp.  $1\frac{1}{2}$ —2 lin.; Exp. Alar. 3—4 lin.)

St. *gagates*. *Gravenhorst*, i. 667.—*Steph. Nomen*. 2d edit. col. 137.

Black: palpi pale; antennæ reddish at the base, with the basal joint generally black above, reddish beneath; thorax with 2 acute tubercles on the meta-thorax; abdomen lanceolate in the male, depressed and orbiculate-ovate in the female, with the ovipositor slightly exerted; legs most slender in the male, fulvous, 4 anterior coxæ sometimes entirely red, or red, with the base black, or black, red beneath, rarely nearly quite black, posterior for the most part black, red at the tip beneath, rarely black, or red, with the extreme base black; wings hyaline.

Also found in June near London, not uncommon.

Sp. 3. *Pavoniæ*. *Niger, pedibus et antennarum basi luteis*. (Long. corp.  $1\frac{3}{4}$  lin.; Exp. Alar. 3 lin.)

Ich. *Pavoniæ*. *Scopoli*, No. 762.—St. *Pavoniæ*. *Steph. Nomen*. 2d edit. col. 137.

Black: antennæ with the basal joint red, the following black in the male, testaceous in the female, and gradually becoming darker towards the apex, which is black; abdomen oblong-lanceolate in the male, nearly orbiculate in the female; ovipositor concealed; legs slender, stoutest in the female, reddish straw-colour; the posterior in the male with the tarsi and apex of



the tibiæ somewhat brownish ; wings iridescent, of the male hyaline, of the female rather smoky.

Less abundant than the last ; found at Darenth wood in June and July.

Sp. 4. *blandus*. *Niger*, *segmentis 2 et 3 pedibusque rufis, coxis posticis basi nigris*. (Long. corp.  $1\frac{1}{2}$ —2 lin. ; Exp. Alar. 3— $3\frac{1}{2}$  lin.)

St. *blandus*. *Gravenhorst*, i. 672.—*Steph. Nomen*. 2d edit. col. 137.

Black : palpi and middle of the mandibles red ; antennæ fuscous, with the basal joint red or testaceous beneath ; abdomen with the 2nd and 3rd segments red, the apex of the 3rd black ; ovipositor exerted, very short ; legs red, posterior with the coxæ externally black towards the base ; tarsi fuscous ; wings hyaline.

Found at Hertford in June ; not common.

Sp. 5. *dryadum*. *Niger*, *antennarum basi pedibus maculâque dorsali abdominis ochreo-stramineis*. (Long. corp.  $2\frac{1}{2}$  lin. ; Exp. Alar. 4—5 lin.)

St. *dryadum*. *Curtis*, v. ix. pl. 388.—*Steph. Nomen*. 2d edit. col. 137.

Black : antennæ straw-coloured at the base, dusky at the apex, and the basal joint with occasionally a black dot above ; abdomen of the male with a pale ochreous band at the anterior margin of the 2nd and 3rd segments, of the female with a broad ochreous stripe down the back of the 2nd, 3rd, and 4th segments, a spot at the tip of the peduncle, and the edge of the 2nd segment pale ochreous ; legs the same, with the tips of the tarsi blackish.

Mr. Curtis, from whose description the above is abridged, says the abdomen of the female is sometimes entirely black, and the antennæ have only 14 joints.

“Taken on oak-trees in Galway, Ireland, by Mr. Haliday.”—*Curtis*, l. c.

## GENUS XLII.—BRACHYPTERUS, *Gravenhorst*.

*Antennæ* filiform, curved, short, rather stout, about half the length of the body : *head* shortish, a little narrowed towards the neck, the face somewhat protuberant : *eyes* ovate : *thorax* cylindric-gibbous : *scutellum* slightly convex, and somewhat triangular, with the apex obtuse : *abdomen* oblong-ovate, rather broader than the thorax, the basal segment thrice as wide as the peduncle ; ovipositor scarcely exerted : *wings* narrow, rather longer than the thorax ; cellule wanting : *legs* moderate, femora slightly thickened.

This singular genus may be instantly recognized by the brevity of its wings, combined with the form of its abdomen, and the shortness and stoutness of its legs.

Sp. 1. *means*. PLATE XL. f. 2.—*Niger*, *segmentis 1-4 pedibusque-rufis, horum*

*posticis apice femorum tibiærumque nigro.* (Long. corp. 3 lin.; Exp. Alar. 2½ lin.)

Bra. means. *Gravenhorst*, i. 675.—*Steph. Nomen*. 2d edit. col. 137.

Black: antennæ with the 1st to 11th joints red, the 9th to 11th whitish above, remainder fuscous; metathorax slightly crenulated; abdomen with the 1st segment red, 2nd subquadrate, also red, 3rd and 4th transverse, twice as broad as long, also red, with the margins of the 4th black; remainder black, with a whitish spot on the 6th and 7th; legs red; apex of the femora and tibiæ black.

Rare: I have taken it at Coombe wood in June, and I believe it occurs also in Salop.

### GENUS XLIII.—MICROLEPTES, *Gravenhorst*.

*Antennæ* stoutish, porrect, and curved at the apex in the males, curved and thickened in the females, composed of about 22 joints, the basal one robust, 2nd minute, 2 or 3 following in the males subclavate, apical one elongate: *head* subglobose: *face* slightly protuberant: *eyes* oval: *thorax* cylindric-gibbulous: *wings* ample; *cellule* wanting; *scutellum* slightly convex: *abdomen* oblong-ovate, somewhat clavate in the males, supported by a stoutish peduncle, gradually increasing in width to its union with the basal segment; with a tubercle in the middle on each side: *ovipositor* concealed: *legs* rather short and stoutish.

This genus may be known from the foregoing by wanting the cellule on the anterior wings, which are long and ample; the abdomen arises from a slender peduncle, and is somewhat clavate, the antennæ long and slender, &c.

Sp. 1. *splendidulus*. PLATE XL. f. 3.—*Niger*, *pedibus rufis*. (Long. corp. 2 lin.; Exp. Alar. 4 lin.)

Mic. *splendidulus*. *Gravenhorst*, i. 679.—*Steph. Nomen*. 2d edit. col. 137.

Black, shining: palpi whitish; antennæ with the 2 basal joints more or less reddish, the remainder fuscous; abdomen very glossy, its basal segment a little dilated towards the apex, the 2nd as wide as long, a little narrowed towards the base, the remainder transverse, becoming slightly shorter and narrower towards the apex; legs red, with the hinder coxæ fuscous towards the base.

Found at Charlton in August.

### GENUS XLIV.—MESOLEPTUS, *Gravenhorst*.

*Antennæ* very slender, for the most part long, with the apex more or less curved, occasionally porrect and a little stouter: *head* short, rather narrower than the thorax: *eyes* oval, slightly prominent: *thorax* somewhat gibbous: *wings* moderate, rarely ample; *cellule* either entirely wanting, or small 3-angular,



frequently irregular and petiolated, rarely suborbicular: *abdomen* oblong or subovate, with the basal segment somewhat convex and smooth anteriorly, the peduncle very slender: *legs* slender, long, sometimes a little abbreviated, and with the femora, especially the hinder one, thickened.

Known from Typhon by having the abdomen oblong or somewhat ovate, with the basal segment smooth and rather convex anteriorly, and supported by a very slender peduncle; the legs and antennæ more or less elongate and slender: some of the species are very closely allied to those of the following genus, and are to be discriminated with great difficulty: there is, nevertheless, a certain degree of diversity in habit between them, by which a practised eye can readily distinguish them.

§ I. *Scutellum* and *abdomen* black, the extreme margins of the segments of the latter sometimes pale.

Sp. 1. *narrator*. *Niger, tibiis anterioribus nigris*. (Long. corp. 5 lin.; Exp. Alar.  $8\frac{1}{2}$  lin.)

Me. *narrator*. *Gravenhorst*, ii. 11.—*Steph. Nomen*. 2d edit. Gen. 714. 1.

Slender, black: palpi and mandibles fuscous, the tips of the latter black; antennæ incurved at the tip; abdomen narrower than the thorax, and somewhat cylindric towards the apex, the basal segment with 2 raised lines, peduncle slender, 2nd to 5th of equal breadth; legs moderate; anterior femora testaceous, fuscous towards the base, middle fuscous with the tip testaceous, the 4 anterior tibiæ and tarsi testaceous, the posterior brown-black; wings smoky-hyaline; cellule wanting.

Scarce: taken in June in the vicinity of London.

Sp. 2. *quadriannulatus*. *Niger, femoribus tibiisque rufis, annulo antennarum et tarsorum posticorum albo*. (Long. corp. 4—5 lin.; Exp. Alar. 9—10 lin.)

Me. *quadriannulatus*. *Gravenhorst*, ii. 13.—*Steph. Nomen*. 2d edit. Gen. 714. 2.

Black: palpi testaceous; frontal orbits faintly white; antennæ slender, curved at the tip, the 11th to 14th joints white; thorax with a dot before and another beneath, and a very minute dot at the tip of the scutellum also white; abdomen lanceolate, narrower than the thorax, the anterior portion of the basal segment quadrate, twice as short and broader than the peduncle, with the lateral tubercles a little prominent; legs slender, coxæ and trochanters black; femora red, the posterior black at the extreme tip; tibiæ testaceous, the hinder pair fuscous at the apex; tarsi fuscous, 4 anterior with the basal joint red, posterior with the 3rd and 4th joints and tip of the 2nd white; wings somewhat smoky-hyaline; cellule 3-angular.

Also rare: found in June and July, near London.

Sp. 3. *sericeus*. *Niger, sericeus, pedibus, ore, et antennarum basi testaceis, coxis posterioribus fuscis*. (Long. corp.  $3\frac{1}{2}$  lin.; Exp. Alar.  $5\frac{1}{4}$  lin.)

Me. sericeus. *Gravenhorst*, ii. 14.—*Steph. Nomen. 2d edit. Gen.* 714. 3.

Black, clothed with a delicate griseous pubescence; mouth testaceous; antennæ porrect, fuscous, ferruginous beneath and testaceous at the base; abdomen narrower than the thorax, somewhat clavate, the basal segment long and very smooth, and all with the extreme edge somewhat testaceous; legs slender, testaceous, with the upper side of the hinder coxæ and of the posterior femora brown-black; wings iridescent; cellule irregularly 3-angular, subpetiolated.

Taken, but very rarely, near London, in June.

Sp. 4. limitaris. *Niger, pedibus rufis, ore rufo aut flavicante, antennis subtus testaceis, segmentis ultimis albido marginatis.* (Long. corp.  $2\frac{1}{2}$ —4 lin.; Exp. Alar.  $4\frac{1}{2}$ — $6\frac{1}{2}$  lin.)

Me. limitaris. *Gravenhorst*, ii. 14.—*Steph. Nomen. 2d edit. Gen.* 714. 4.

Black: mouth yellowish, or red, mandibles fuscous at the tip; antennæ porrect, the apex recurved, fuscous, reddish beneath, the basal joint sometimes yellow below; thorax occasionally, with a dot before the wings, and a spot on the breast, chestnut; scutellum sometimes reddish; abdomen fusiform, the 4th to 7th segments on the lateral edge and on the extreme margins whitish; legs red, with the 2 or 4 anterior coxæ and trochanters yellowish, tibiæ yellowish, posterior sometimes fuscous at the tip; hinder tarsi fuscous; wings ample, hyaline; cellule 5-angular.

Not very uncommon: found in July near London.

Sp. 5. infernalis. *Niger, tibiis anticis et femorum anticorum apice rufis.* (Long. corp.  $2\frac{1}{2}$  lin.; Exp. Alar. 4 lin.)

Me. infernalis. *Gravenhorst*, ii. 16.—*Steph. Nomen. 2d edit. Gen.* 714. 5.

Black: antennæ rather above half the length of the body; abdomen scarcely narrower than the thorax, oblong-ovate, clavate, the basal segment a little dilated towards the apex, the remainder with the margins somewhat glaucous; legs moderate, anterior with the femora red, black at the base, tibiæ red, posterior obsoletely testaceous within; wings hyaline, iridescent; cellule 3-angular, petiolated.

Found near London in June, not common.

Sp. 6. Evanialis. *Niger, abdomine subcompresso, pedibus rufis, coxis nigris, tarsis posticis nec non tiliarum posticarum apice fuscis.* (Long. corp. 2 lin.; Exp. Alar.  $3\frac{3}{4}$  lin.)

Me. Evanialis. *Gravenhorst*, ii. 16.—*Steph. Nomen. 2d edit. Gen.* 714. 6.

Black: antennæ rather shorter than the body; abdomen lanceolate, slightly compressed, narrower than the thorax, the 1st segment a little narrowed towards the base, longer than wide, 2nd and 3rd with the extreme base slightly chestnut; legs moderate, red, coxæ black, reddish beneath, posterior trochanters black at the base, hinder tibiæ at the apex, and their tarsi fuscous; wings smoky-hyaline; cellule small, somewhat orbicular and petiolated.

Found, but very rarely, at Darenth wood, in June.



Sp. 7. *leucostomus*. *Niger, ore albido, pedibus flavo-pictis, antennis apicem versus rufo-ferrugineis.* (Long. corp.  $3\frac{1}{2}$  lin.; Exp. Alar.  $5\frac{1}{2}$  lin.)

Me. *leucostomus*. *Gravenhorst, ii. 17.—Steph. Nomen. 2d edit. Gen. 714. 7.*

Black: mouth and clypeus whitish-yellow, mandibles black at the tip; antennæ with the 3 basal joints brown-black, the following beneath ferruginous, and the terminal ones entirely of that colour; abdomen rather narrower than the thorax, the basal segment a little dilated at the apex, the 2nd to 4th of equal width, the remainder with the extreme edge whitish; 4 anterior legs yellow, with the coxæ, trochanters, claws, and base of the femora black, posterior black, their tibiæ yellow, with the tip black; wings hyaline, iridescent; cellule irregularly 3-angular, petiolated.

Also rare: taken in June, near London.

Sp. 8. *submarginatus*. *Niger, facie flavâ, nigro maculatâ, pedibus anterioribus rufis, segmentis ultimis albido marginatis, cellulâ nullâ.* (Long. corp.  $3\frac{1}{2}$  lin.; Exp. Alar. 6 lin.)

Me. *submarginatus*. *Steph. Nomen. 2d edit. Gen. 714. 8.*

Black: mouth and face yellow, the latter with an irregular black patch in front; antennæ long and slender, fuscous, beneath testaceous, with the basal joint yellow; abdomen long and slender, the 3rd segment obscurely edged with chestnut, and the 4 following with whitish; legs pale red, trochanters yellowish, hinder pair with a small black spot above; the tip of the hinder femora black, their tibiæ and tarsi fuscous, the base of the femora reddish without; wings hyaline, cellule wanting.

Found in July last at Hertford.

§ II. *Scutellum* pale, or with pale marks: *abdominal segments* generally with pale edges.

Sp. 9. *pectoralis*. *Niger, pedibus rufis, posticorum tarsis et tibiæ apice fuscis, thorace flavomaculato, antennis subtus ferrugineis articulis 1-3 albidis: mas facie pectore et coxis anterioribus flavis; foemina facie flavomaculatâ.* (Long. corp.  $3\frac{1}{2}$ —4 lin.; Exp. Alar. 5 lin.)

Me. *pectoralis*. *Gravenhorst, ii. 21.—Steph. Nomen. 2d edit. Gen. 714. 9.*

Black: male with the face, cheeks, and mouth yellow; mandibles rusty at the tip; female with the inner orbits, 2 dots beneath the antennæ, a spot on the cheeks, margin of the clypeus, and the mouth yellowish; tip of the mandibles fuscous; antennæ incurved at the tip, fuscous, rusty beneath, with the 2 or 3 basal joints whitish; thorax of the male with the breast, neck, a broad line before the wings, a dot before them, and the lateral sutures of the metathorax yellow; of the female with the upper margin of the neck, a line before, and a dot beneath the wings, yellowish-white; scutellum of the male with 2 yellow dots, of the female with red confluent ones; abdomen silky, with the extreme margin of the 6 terminal segments obscurely chestnut; legs moderate, red, 4 anterior with the coxæ and trochanters pale yellow, posterior with the trochanters pale yellow, with the

base black, the femora with a black dot at the tip, and the tarsi and the apex of the tibiæ fuscous; in the female all the legs are red, with the hinder tarsi and tip of their tibiæ black; wings hyaline, with a very indistinct vestige of a triangular cellule.

Found at Dover, in August, 1818.

Sp. 10. *cingulatus*. *Niger, pedibus fulvis, coxis pallidioribus, tarsis posticis nec non tibiæ posticarum apice fuscis, pectore et facie flavis, segmentis albo-marginatis*. (Long. corp.  $3\frac{1}{2}$ —4 lin.; Exp. Alar. 5—6 lin.)

Me. *cingulatus*. *Gravenhorst*, ii. 22.—*Steph. Nomen*. 2d edit. Gen. 714. 10.

Black: face, cheeks, and mouth yellow, or reddish; antennæ incurved at the tip, fuscous, with the basal joint yellow beneath; thorax yellow on the sides and below, with a black dot beneath the wings, above black, with a dot beneath the scutellum, and sometimes 2 longitudinal ones, and the scutellum, yellow; abdomen with the margins of all the segments dull whitish, the colour vanishing towards the sides of the terminal ones; legs fulvous, 4 anterior coxæ and trochanters, and 2 posterior beneath, paler, their tarsi and the tip of the tibiæ fuscous, the base of the last palish; wings somewhat smoky-hyaline; cellule wanting.

Not common: found at Darenth and Coombe woods in June.

Sp. 11. *exornatus*. *Nigro flavoque varius, pedibus pallide fulvis, posticorum tarsis et tibiis fuscescentibus, segmentis flavomarginatis*. (Long. corp. 3 lin.; Exp. Alar.  $5\frac{1}{2}$  lin.)

Me. *exornatus*. *Gravenhorst*, ii. 23.—*Steph. Nomen*. 2d edit. Gen. 714. 11.

Head subglobose, yellow, mandibles ferruginous at the tip; eyes small, ocelli and region of the eyes black; antennæ porrect, with the basal joint yellowish below, of the female reddish at the tip; thorax yellow, with a black or rusty spot on the front, 3 broad longitudinal black lines on the back, reddish or rusty-black in the female, and often interrupted in the middle, the margin of the scutellum and a transverse dot before the peduncle black; a streak below the scutellum and the latter yellow; abdomen black, with the margin of the segments yellow, or reddish in the female; legs slender, fulvo-testaceous, coxæ and trochanters yellow, posterior with a black dot above, the hinder femora sometimes black at the base, their tibiæ brownish, with the base occasionally dull tawny-brown; wings hyaline; cellule 3-angular, somewhat petiolated.

Apparently scarce: taken in June near London.

Sp. 12. *albolineatus*. *Niger, capite thorace scutelloque albolineatis, femoribus tibiisque rufis, antennis albo annulatis*. (Long. corp. 5 lin.; Exp. Alar.  $8\frac{1}{2}$  lin.)

Me. *albolineatus*. *Gravenhorst*, i. 681.—*Steph. Nomen* 2d edit. Gen. 714. 12.

Black: palpi, base of the mandibles, and inner and outer orbits white; antennæ curved at the tip, the 12th to 14th joints white above; thorax with a line on the suture before the wings, a streak beneath, and 2 dots below the



scutellum, white ; scutellum with a large marginal white spot on each side ; abdomen black ; legs with the coxæ and trochanters black ; femora red, posterior with the extreme tip black ; tibiæ red, hinder pair black towards the tip ; 4 anterior tarsi red-brown, posterior black-brown, with the 4th joint a little paler ; wings smoky-hyaline ; cellule 3-angular, sessile.

Not common : found near London and at Netley, in June.

§ III. *Scutellum* pale or red ; *abdomen* either anteriorly red (or pale), or red and black.

Sp. 13. *melanocephalus*. *Rufus, capite nigro, facie et ore flavis*. (Long. corp.  $4\frac{1}{2}$ — $5\frac{1}{4}$  lin. ; Exp. Alar. 7—8 lin.)

Me. *melanocephalus*. *Gravenhorst*, ii. 28.—*Steph. Nomen*. 2d edit. Gen. 714. 13.

Red : head and mandibles at the tip black, face and mouth yellow ; antennæ with the basal joint generally yellow below ; thorax sometimes with a streak before, or a dot beneath, the wings, and the suture between the prothorax and metathorax yellow ; legs with the 2 or 4 anterior coxæ and trochanters pale straw-colour ; wings hyaline ; cellule irregular, with a short peduncle.

Taken at Darenth and Coombe woods, and near Hertford, in June.

Sp. 14. *testaceus*. *Testaceo-rufus, oculis et ocellis nigris*. (Long. corp.  $3\frac{1}{2}$ —6 lin. ; Exp. Alar. 7— $8\frac{1}{2}$  lin.)

Ich. *testaceus*. *Fabr. Ent. S. Sup.* 228.—Me. *testaceus*. *Steph. Nomen*. 2d edit. Gen. 714. 14.

Mouth and face testaceous-red, mandibles fuscous at the tip ; antennæ porrect, curved at the tip, tawny-red or dusky, with the basal joint always red, paler beneath ; thorax tawny-straw, or reddish, with occasionally a line before the wings, and the lateral sutures yellowish ; scutellum palish, or yellow ; abdomen rusty, or tawny-yellowish, somewhat linear, slightly compressed towards the apex, most in the female ; legs slender, tawny-straw, with the hinder tarsi sometimes paler ; wings hyaline, cellule irregularly 3-angular, slightly petiolated.

Found at Darenth and Birch woods, and near Dover, at the beginning of June.

Sp. 15. *pallidus*. *Pallide stramineus, oculis ocellisque nigris*. (Long. corp. 3 lin. ; Exp. Alar. 5 lin.)

Me. *pallidus*. *Gravenhorst*, ii. 30.—*Steph. Nomen*. 2d edit. Gen. 714. 15.

Pale straw-colour : antennæ testaceous-brown, with the basal joint pale straw-colour ; eyes and ocelli black ; legs very pale straw-colour ; wings hyaline, iridescent ; cellule somewhat 3-angular, petiolated.

Not very common : taken at Darenth wood in June.

Sp. 16. *sticticus*. *Fulvus, scutello flavo, oculis ocellis pectore et petioli basi*

*nigris*: mas *thoracis lateribus et regione circa scutellum nigris*. (Long. corp. 3—4½ lin.; Exp. Alar. 5—7½ lin.)

*Ic. sticticus*. *Fabr. Ent. S. Sup.* 229.—*Me. sticticus*. *Steph. Nomen. 2d edit. Gen.* 714. 16.

**Fulvous**: face and mouth yellowish; tip of the mandibles, eyes, ocelli, and a quadrate spot on the forehead black, the last occasionally ferruginous in the female; antennæ porrect and black, with the 2 basal joints beneath fulvous, and the 6 or 8 following fulvescent; of the female incurved at the tip, ferruginous, but above, especially towards the base, dusky; thorax with a dot before the collar and on the breast black, and of the male with the margin of the scutellum more or less black, the metathorax black, red above, the scutellum and a transverse line beneath yellow; abdomen oblong, faintly compressed at the tip; peduncle black at the base in the female, entirely black in the male, and sometimes the 1st segment, except the margins, the same; ovipositor black; legs fulvous, anterior coxæ paler, the hinder tarsi and tip of the tibiæ, and sometimes a line on the coxæ, blackish; wings hyaline; cellule 3-angular, subpetiolated.

Not common: taken at Hertford in July.

*Sp. 17. trimaculatus*. *Fulvus, oculis ocellis pectore maculisque 3-bus thoracis dorso nigris*. (Long. corp. 3 lin.; Exp. Alar. 6 lin.)

*Me. trimaculatus*. *Steph. Nomen. 2d edit. Gen.* 714. 17.

**Fulvous**: mouth and face paler; eyes and ocelli black; thorax with a spot on the breast and 3 large ones on the back also black; scutellum fulvous; abdomen elongate, slightly compressed at the apex; legs pale tawny, coxæ and trochanters paler; wings hyaline; cellule 3-angular, scarcely petiolated.

Found in June near London; scarce.

*Sp. 18. luteolator*. *Testaceus; oculis, ocellis, nec non thoracis et segmentorum plurimorum dorso nigris*. (Long. corp. 2¾ lin.; Exp. Alar. 5 lin.)

*Me. luteolator*. *Gravenhorst, ii.* 42.—*Steph. Nomen. 2d edit. Gen.* 714. 18.

**Testaceous**: head subglobose; eyes and ocelli black; antennæ porrect fuscous, testaceous at the base beneath; thorax black on the back, with 2 longitudinal red streaks; scutellum red; abdomen lanceolate, the basal segment entirely black, 3rd entirely fulvous, 2nd, and the 4th to 7th fulvous, with the back black; legs rather slender, pale testaceous, the hinder tarsi and tip of their tibiæ fuscous; wings hyaline, iridescent; cellule 3-angular, somewhat petiolated.

Also rather scarce: taken in June in the vicinity of London.

*Sp. 19. flavopictus*. *Niger, facie scutello et lineâ ante alas flavis, abdominis medio pedibusque rufis*. (Long. corp. 4 lin.; Exp. Alar. 7 lin.)

*Me. flavopictus*. *Gravenhorst, ii.* 33.—*Steph. Nomen. 2d edit. Gen.* 714. 19.

**Black**: face and mouth yellow; mandibles black at the tip; antennæ slender, curved at the tip, the basal joint yellow beneath; thorax with a line before the wings, hooked in front, a transverse streak beneath the wings, and 1



below the scutellum, and the scutellum itself, yellow; abdomen oblong-ovate, basal segment black, with the tip fulvous, 2nd red, with a black spot on the back, 2 following red, 5th black, with its sides chestnut, 6th and 7th black; legs slender, tawny, coxæ and trochanters paler beneath, posterior tibiæ black at the apex and the tarsi dusky; wings yellowish-hyaline; cellule irregularly 3-angular, petiolated, the outer nervure rather obscure.

Found at Darenth wood in June; not uncommon.

Sp. 20. *cinctulus*. *Niger, facie et scutelli apice flavis, segmento 1 nigro, sequentibus margine et lateribus rufis, ultimis totis testaceis: pedibus anterioribus testaceis, posticis nigro fuscis, coxis et trochanteribus subtus stramineis, femoribus medio rufis.* (Long. corp.  $3\frac{1}{2}$  lin.; Exp. Alar. 5 lin.)

Me. *cinctulus*. *Gravenhorst*, ii. 37.—*Steph. Nomen*. 2d edit. Gen. 714. 20.

Black: face and mouth yellow, apex of the mandibles black; antennæ porrect, fulvous beneath, the 2 or 3 basal joints entirely black; scutellum a little elevated, its apex yellow; abdomen clavate, basal segment long and black, 2nd black, with the margin broadly rufous, 3rd to 5th reddish-yellow, with the base black, and the extreme margin glaucous-yellow, the remainder tawny-yellow; legs slender, 4 anterior testaceous, with the coxæ and trochanters paler; posterior brown-black, with the coxæ and trochanters straw-coloured beneath, femora dull red in the middle, and the tibiæ the same towards the base, both black at the base and apex; wings subhyaline; cellule 3-angular, petiolated.

This, and the following beautiful species, depart considerably in habit from the rest of the genus, and will probably be some day removed.

Also rare: taken at the end of June, at Darenth wood.

Sp. 21. *sponsorius*. *Niger, facie scutello et colli parte infera flavis, abdomine rufo basi nigrâ, apice flavo, pedibus rufis, posticis nigro-maculatis.* (Long. corp. 3— $3\frac{1}{2}$  lin.; Exp. Alar.  $4\frac{1}{2}$ —6 lin.)

Ic. *sponsorius*. *Fabr. Piez.* 64.—Me. *sponsorius*. *Steph. Nomen*. 2d edit. Gen. 714. 21.

Black: face and mouth yellow; mandibles black at the tip; antennæ porrect, slightly curved at the apex, above fuscous, but reddish towards the tip, beneath fulvous, with the 3 basal joints black; thorax with part of the neck below, and also a dot beneath the scutellum, and the scutellum, yellow; abdomen somewhat clavate, the basal segment black, with the tip red or fulvous, 2nd red or pale tawny, 3rd either fulvous, or red, with the extreme margin yellow, and sometimes with a black streak within the edge, 4th yellow, tawny-red at the base, the extreme base and a streak towards the margin black, remainder yellow, with a black spot at the base of the 5th; legs moderate, fulvous, 4 anterior with the coxæ and trochanters pale yellow, coxæ above black or red, posterior coxæ and trochanters yellow, above black or red, femora with the base and apex black, tibiæ at the apex and towards the base (the base itself being reddish) black; tarsi

fuscous; wings somewhat hyaline; cellule 3-angular and somewhat petiolated.

Rare: taken at Darenth wood and in the New Forest, in June.

Sp. 22. *ruficornis*. *Niger, scutelli apice et abdominis medio rufis, pedibus anterioribus testaceis, posticis nigris, trochanteribus stramineis, tarsis tibiisque rufis, his apice nigris, facie flavâ.* (Long. corp. 4—5 lin.; Exp. Alar. 7—8 lin.)

Me. *ruficornis*. *Gravenhorst*, ii. 43.—*Steph. Nomen*. 2d edit. Gen. 714. 22.

Black: face and mouth testaceous, mandibles black at the tip; antennæ curved at the apex, rusty-brown, reddish beneath, the basal joint yellowish, or red; thorax frequently with a reddish spot beneath the scutellum and a yellow dot below the wings; scutellum at the tip fulvous or testaceous; abdomen with the basal segment black, 2nd sometimes black on the back, 3rd and 4th red, with the edge of the latter and all the remaining segments black, and in the female slightly compressed; legs rather elongate, 4 anterior fulvescent, with the coxæ and trochanters straw-colour; posterior with the coxæ black, trochanters straw-colour, black at the base, femora black, tibiæ red or testaceous, with the apex black; tarsi reddish; wings smoky-hyaline; cellule somewhat petiolated, irregularly 3-angular.

Taken near London in June; not common.

§ IV. *Scutellum* black: *abdomen* red, or red and black.

Sp. 23. *spheginus*. *Niger, areolâ 5-angulari incompletâ, capite thoraceque griseo-villosis, tibiis testaceis, abdomine medio rufo, petiolo longissimo tenui.* (Long. corp.  $2\frac{3}{4}$ — $3\frac{1}{2}$  lin.; Exp. Alar. 4—5 lin.)

Me. *spheginus*. *Gravenhorst*, ii. 49.—*Steph. Nomen*. 2d edit. Gen. 714. 23.

Black: head and thorax clothed with a griseous pubescence; palpi pale; antennæ brown-black, reddish beneath, with the basal joint entirely black; abdomen rather slender, oblong, basal segment black, pubescent, supported by a long slender linear peduncle, which is a little dilated towards the apex, and furnished with acute lateral tubercles; 2nd a little dilated towards the apex, longer than broad, 3rd subquadrate, remainder transverse, 2nd to 4th red, rest black; legs moderate, 4 anterior with the coxæ and trochanters black, the femora pale red, more or less black at the base; tibiæ and tarsi testaceous; posterior wings somewhat smoky-hyaline; cellule 5-angular, open, the outer nervure being deficient.

Of this very distinct insect I took a pair at Hertford in July last.

Sp. 24. *lætus*. *Niger, abdomine rufo, basi nigrâ, tibiis femoribusque anterioribus testaceis, his basi nigris.* (Long. corp.  $2\frac{1}{2}$ —4 lin.; Exp. Alar. 5 lin.)

Me. *lætus*. *Gravenhorst*, ii. 50.—*Steph. Nomen*. 2d edit. Gen. 714. 24.

Black: mouth pale ferruginous; mandibles black at the tip; inner orbits occasionally yellow; antennæ fuscous, reddish beneath, with the basal joint totally black; abdomen slightly petiolated, narrower than the thorax,



oblong, the basal joint black and channelled, 2nd nearly wholly black, the apex being in general more or less red, the following red or testaceous, the remainder mostly yellowish; legs moderate, 4 anterior testaceous-red, with the coxæ, trochanters, and base of the femora black; posterior black, with the middle of the femora frequently chestnut, tibiæ generally testaceous beneath; wings for the most part hyaline; cellule somewhat irregularly 3-angular, and sessile.

Taken at Coombe wood, in July.

Sp. 25. *bipunctatus*. *Niger, abdominis medio rufo nigro punctato, femoribus tibiisque rufis, posticis apice nigris, trochanteribus ore et orbitis oculorum internis flavis.* (Long. corp.  $3\frac{1}{2}$  lin.; Exp. Alar.  $5\frac{1}{2}$  lin.)

Me. *bipunctatus*. *Gravenhorst*, ii. 54.—*Steph. Nomen. 2d edit. Gen.* 714. 25.

Black: mouth, margin of the clypeus and inner orbits yellow; mandibles rusty-brown at the tip; antennæ porrect, curved at the apex, reddish beneath, with the 2 basal joints yellow; thorax with a dot beneath the wings, and frequently with a spot before them, yellow; abdomen clavate, 2 basal segments black, 3rd red, with 2 black dots, 4th like the 3rd, or black, red in the middle, remainder black, with the edge of the 5th red; legs moderate, 4 anterior tawny-red, coxæ either entirely yellow, or black, with a yellow tip, trochanters yellow, with the base black, tarsi and tips of the tibiæ and femora blackish; wings hyaline; cellule somewhat orbiculate, petiolate.

Found, but rarely, near London, in June.

Sp. 26. *xanthostigma*. *Niger, abdominis medio rufo, nigro maculato, femoribus tibiisque rufis, posticis apice nigro, coxis anterioribus, trochanteribus, maculis thoracis, facie et antennarum articulis 1 et 2 subtus flavis.* (Long. corp.  $4\frac{1}{2}$ —5 lin.; Exp. Alar. 5— $7\frac{1}{2}$  lin.)

Me. *xanthostigma*. *Gravenhorst*, ii. 55.—*Steph. Nomen. 2d edit. Gen.* 714. 26.

Black: face, mouth, and cheeks yellow, with the tips of the mandibles and an impressed dot on the sides of the clypeus black; antennæ with the tip recurved, fuscous, rusty beneath, the 2 basal joints yellow; thorax with a dot below the wings, another and a sutural line before them, and a double spot on the breast, yellow; abdomen slightly silky, the 2 basal segments black; 3rd chestnut, with a lateral dot, and the extreme edge black; 4th black, with the tip chestnut, remainder black; legs moderate, 4 anterior red, with the coxæ and trochanters pale yellow; posterior red, coxæ black, trochanters pale yellow, the tips of the femora and of the tibiæ black, tarsi fuscous, with the base of the joints reddish; wings hyaline; cellule 3-angular, petiolated.

Also found near London in June, but not common.

Sp. 27. *fugax*. *Niger, abdominis medio rufo nigro maculato, femoribus fulvis, tibiis testaceis, picturis faciei et articulis 1 et 2 antennarum subtus flavis.* (Long. corp. 4— $5\frac{1}{4}$  lin.; Exp. Alar. 7—8 lin.)

Me. fugax. *Gravenhorst*, ii. 56.—*Steph. Nomen. 2d edit. Gen. 714. 27.*

Black: face yellow, black in the middle, clypeus and frequently a lateral dot yellow; palpi and mandibles yellow, the tip of the last fuscous; antennæ porrect, black, 2 basal joints yellow beneath, following sometimes rusty; abdomen variable, the 4 basal segments being more or less black at the base, and reddish or chestnut at the apex, the basal one sometimes totally black, and the last 3 always so; legs with the coxæ black, trochanters yellow, with the base generally black; femora testaceous-red, the posterior pair sometimes fuscous; tibiæ yellow or testaceous, with the tip of the hinder ones fuscous; tarsi testaceous, with the claws fuscous, the posterior pair fuscous, with the base paler; wings hyaline; cellule small, triangular, petiolated.

Taken in Norfolk.

Sp. 28. arridens. *Niger, lineis thoracis facieque flavis, antennis tibiis tarsis et abdominis medio rufis.* (Long. corp. 4 lin.; Exp. Alar.  $6\frac{1}{2}$ —7 lin.)

Me. arridens. *Gravenhorst*, i. 683.—*Steph. Nomen. 2d edit. Gen. 714. 28.*

Black: mouth and face yellow, the last with a short black line between the antennæ; these are involuted at the apex, fuscous, with the basal joint black, beneath yellow, and the sides reddish; thorax with a streak before the wings, another shorter perpendicular one on each side of the breast, yellow; abdomen oblong, basal joint black, with the peduncle linear, 2nd black, subquadrate, a little narrowed towards the base, 3rd and 4th chestnut-red, remainder black; legs slender, coxæ black, the anterior yellow beneath, trochanters black, anterior femora red, black at the base, middle black, with the tip red, posterior entirely black; tibiæ and tarsi red, anterior palest; wings somewhat smoky-hyaline; cellule minute, 3-angular, or wanting.

Found near London in June, and in Salop.

Sp. 29. Typhæ. *Niger, abdominis medio antennis pedibusque rufis, coxis anterioribus flavomaculatis, posticis nigris, facie flavâ.* (Long. corp. 3—6 lin.; Exp. Alar. 5—9 lin.)

Ich. Typhæ. *Fourcroy*, ii. 413.—Me. Typhæ. *Steph. Nomen. 2d edit. Gen. 714. 29.*

Black: mouth and face testaceous or yellow, the last sometimes black in the middle; mandibles black at the apex; antennæ with 1 or 2 basal joints black, yellow or reddish beneath, the rest either wholly red, or fuscous above; abdomen silky, slender, oblong-fusiform, slightly compressed at the apex, especially in the females; basal segment long, sublinear, black, the tip more or less red; 2nd, 3rd, and 4th red, or with the sides of each black, and the 6th with 2 obsolete black dots; 5th with the base red, the back sometimes chestnut; remainder black, with the extreme edges occasionally reddish; legs elongate, coxæ black; 4 anterior in the males yellow beneath, and partially so in the females; posterior occasionally chestnut above in the male, trochanters yellow or testaceous, hinder ones sometimes



fuscous or reddish above ; femora and tibiæ red, posterior at times with the tip dusky, the base of the hinder tibiæ pale ; tarsi tawny, hinder ones dusky ; wings hyaline ; cellule 3-angular, petiolated.

Not uncommon in the vicinity of London in June ; taken also in Devonshire and Salop.

Sp. 30. indefessus. *Niger, abdominis medio antennis femoribus anterioribus tibiisque rufis, coxis omnibus femoribusque posticis nigris, facie flavâ.* (Long. corp. 6 lin. ; Exp. Alar. 7—9 lin.)

Ic. indefessus. *Gravenhorst, Ped.* 111.—Me. indefessus. *Steph. Nomen.* 2d edit. Gen. 714. 30.

Black: face yellow ; antennæ red, the basal joint black, yellow beneath ; abdomen with the 2nd to 4th segments chestnut-red ; legs slender, 4 anterior fulvous, with the coxæ black, and the trochanters sometimes yellow ; posterior coxæ and femora black, trochanters yellow, tibiæ testaceous, fuscous at the tip ; tarsi fuscous ; wings somewhat hyaline ; cellule irregularly 3-angular, petiolated.

Probably an odd variety of the foregoing species ?

Taken near London in June and July.

Sp. 31. *nemoralis.* *Niger, abdominis medio, femoribus anterioribus tibiisque rufis, harum posticis apice nigro, tarsis posticis medio albis : mas facie et coxis anterioribus flavis ; foemina annulo antennarum albo.* (Long. corp. 4—4½ lin. ; Exp. Alar. 7—8½ lin.)

Ic. *nemoralis.* *Fourcroy, ii.* 416.—Me. *nemoralis.* *Steph. Nomen.* 2d edit. Gen. 714. 31.

Black: male with the mouth and face yellow ; antennæ porrect, fuscous, with the basal joint pale yellow beneath, and the following pale red, the terminal ones entirely brown ; female with the antennæ incurved at the apex, fuscous, with about the first 12 joints red beneath, the 7 or 8 following entirely white, the remainder generally rusty beneath ; abdomen ovate fusiform, or subclavate, basal segment black, with its apex red, or red, with the peduncle black, 2nd to 5th either totally red, or with a fuscous cloud on the back, or the 4th and 5th sometimes with the edge black, or the last totally black ; remainder all black ; legs slightly elongate, red, 4 anterior coxæ of the male yellow, and posterior black, sometimes with a yellow spot ; of the female all black, as well as the trochanters, which are yellow in the male, and the 4 anterior ones are sometimes slightly so beneath in the female ; posterior femora, in both sexes, whitish-red, black from the middle to the apex ; tarsi fuscous, with the 2nd or 3rd to 4th joints white ; wings somewhat hyaline ; cellule irregularly 3-angular, petiolated.

Not uncommon in the vicinity of London, in June, and in Salop.

Sp. 32. *suborbitalis.* *Niger, abdominis medio femoribusque anterioribus apice tibiisque rufis, harum posticis apice nigro, tarsis posticis medio orbitisque internis*

*albis* ; *foemina annulo antennarum albo.* (Long. corp. 5—6 lin. ; Exp. Alar. 8—9 lin.)

Me. suborbitalis. *Steph. Nomen. 2d edit. Gen. 714. 32.*

Black : inner orbits partly white ; antennæ long, basal joint black, next 5 or 6 reddish-brown, 5 following white, remainder fuscous above, reddish below ; abdomen somewhat clavate, the basal segment black, with its margin red, the 2nd to 4th red, remainder black ; legs slender, coxæ and trochanters black, 4 anterior femora black at the base, fulvous at the apex ; posterior black ; tibiæ bright fulvous or red, the hinder pair black at the apex ; 4 anterior tarsi reddish, posterior pair fuscous, with the 2nd, 3rd, and 4th joints white ; wings smoky-hyaline ; cellule minute, 3-angular, petiolated.

Found near London, and in the New Forest, in June.

Sp. 33. annulator. *Niger, abdominis medio, femoribus anterioribus tibiisque rufis, annulo tarsorum posticorum antennarumque albo.* (Long. corp. 4 lin. ; Exp. Alar. 7 lin.)

Me. annulator. *Steph. Nomen. 2d edit. Gen. 714. 33.*

Black : antennæ with the basal joint black, the 10 following dusky above, next 3 white, remainder fuscous, all but the 1st red below ; abdomen with the peduncle black, its apex and the 1st to 4th segments red ; legs with the coxæ and trochanters black ; the 4 anterior femora red, with the base more or less black, tibiæ and tarsi pale fulvous ; posterior femora black, tibiæ red, with the apex black ; tarsi fuscous, with the 3rd and 4th joints white ; wings hyaline ; cellule 3-angular, petiolated.

Also found in the vicinity of London, in June.

Sp. 34. mirabilis. *Niger, abdominis medio, femoribus tibiisque anterioribus rufis, tarsis posticis annulo albo, areolâ cubitali interni nervurâ ferè subdividente.* (Long. corp. 4 lin. ; Exp. Alar. 9 lin.)

Me. mirabilis. *Steph. Nomen. 2d edit. Gen. 714. 34.*

Black : mandibles pitchy ; antennæ involuted at the tip, dusky-black, the 12th and 13th joints above white, the 3rd to about the 10th reddish beneath ; thorax with a yellow dot before the wings ; abdomen with the basal segment black, its extreme margin and the 3 following segments red, the remainder black ; legs with all the coxæ and trochanters black ; 4 anterior femora, tibiæ, and tarsi light red, the extreme base of the former black ; posterior legs black, with the extreme tip of the femora and an indistinct ring towards the base of the tibiæ reddish ; tarsi with the 3rd and 4th joints white ; wings hyaline, with the external cubital areolet nearly divided by a nervure, placed differently in the 2 opposite wings ; cellule minute, 3-angular, petiolated.

This extraordinary insect is singularly intermediate between the Ichneumonidæ and Braconidæ.

Found at Coombe wood in June.

Sp. 35. regenerator. *Niger, abdominis medio rufo, femoribus tibiisque rufis,*



*posticis apice nigro, annulo antennarum et tarsorum posticorum albo; cellulá minutá petiolatá.* (Long. corp. 4—5 lin.; Exp. Alar. 7—8½ lin.)

Ic. regenerator. *Fabricius, Piez.* 83.—*Me. regenerator. Steph. Nomen. 2d edit. Gen.* 714. 35.

Black: palpi dull white; antennæ with the 3rd to 8th joints ferruginous beneath, 12 to 18th entirely white; abdomen with the basal segment black, with the extreme margin chestnut; 2nd to 4th red, the 4th clouded with black, 3 terminal ones black; legs red, coxæ, trochanters, and claws black; the tips of the hinder femora and of the tibiæ black; middle tarsi with the 3rd and 4th joints white, posterior pair black, with the tip of the 2nd joint, and the whole of the 3rd and 4th white; wings smoky-hyaline; cellule minute, triangular, with a long petiole.

Taken at Darenth wood in June.

Sp. 36. *defectivus. Niger, abdominis medio rufo, femoribus tibiisque anterioribus totis, posticis basi rufis, antennarum annulo albo, cellulá nullá.* (Long. corp. 4½ lin.; Exp. Alar. 7 lin.)

*Me. defectivus. Gravenhorst, ii.* 77.—*Steph. Nomen. 2d edit. Gen.* 714. 36.

Black: antennæ shortish, curved at the tip, 13th to 15th joints white; abdomen slightly petiolated, the basal segment smooth, black, 2nd to 4th chestnut-red, the edge of the 4th dusky, the remainder black; ovipositor not exerted; legs red, 4 anterior with the coxæ and trochanters black, posterior black, with the base of the femora and of the tibiæ red; wings hyaline; cellule wanting.

Also found in June at Darenth wood.

Sp. 37. *mundus. Niger, abdominis medio rufo, pedibus nigris, femoribus anterioribus pro parte rufis, tibiis rufis; mas tibiis posticis apice nigris, antennis subtus rufis; foemina antennis rufis, articulo 1-mo rufo.* (Long. corp. 3½—5 lin.; Exp. Alar. 6—9 lin.)

*Me. mundus. Gravenhorst, ii.* 78.—*Steph. Nomen. 2d edit. Gen.* 714. 37.

Black: palpi pale; mandibles red in the middle; antennæ of the male fuscous, beneath red, the basal joint frequently black; of the female fulvous, the basal joint black, the remainder more or less fuscous above; abdomen with the basal segment black, red at the tip in the female, 2nd to 4th red, remainder all black; legs moderate, 6 anterior fulvous or yellow, coxæ and trochanters black, and their femora more or less black at the base; posterior black, the extreme tip of the femora in the males chestnut, tibiæ red, their apex blackish in the male, and their tarsi fuscous; wings somewhat hyaline; cellule irregularly 3-angular, petiolated.

Taken in June near London, and in Devonshire and Salop.

Sp. 38. *rufoniger. Niger, abdominis medio pedibusque rufis, femoribus posticis, coxis et trochanteribus nigris.* (Long. corp. 3½—4½ lin.; Exp. Alar. 6½—8½ lin.)

*Me. rufoniger. Gravenhorst, ii.* 80.—*Steph. Nomen. 2d edit. Gen.* 714. 38.

**Black:** antennæ slender, ferruginous, sometimes a little dusky at the tip above; abdomen somewhat lanceolate, basal segment black, with the margin red, 2nd to 4th red or chestnut, 5th red or black, 6th and 7th black, with the edge sometimes whitish; legs rather slender, 4 anterior testaceous-red, coxæ and trochanters for the most part black; posterior black, with the tip of the trochanters red, tibiæ red, with their apex dusky or blackish, tarsi rusty-brown; wings hyaline, iridescent; cellule irregular, somewhat petiolated.

Found near London and in the New Forest, in June.

Sp. 39. *sulphuratus*. *Niger, abdominis medio testaceo, tibiis flavis, posticis apice nigro; mas facie flavâ, femoribus anterioribus fulvis; fœmina facie nigrâ, femoribus anterioribus nigris apice rufo.* (Long. corp.  $6\frac{1}{2}$  lin.; Exp. Alar.  $11\frac{1}{2}$  lin.)

Me. *sulphuratus*. *Gravenhorst*, ii. 81.—*Steph. Nomen*. 2d edit. Gen. 714. 39.

**Black:** male with the mouth and face yellow, the tip of the mandibles brown; female, with the palpi and a spot on the mandibles red; antennæ of the male brown, beneath ferruginous, with a yellow spot on the basal joint; of the female red, with the basal joint black; abdomen elongate-fusiform, or clavate, compressed, basal segment smooth, black, reddish at the tip, 3 following testaceous-red, the edge of the 4th sometimes black, 5th to 7th black; legs, of the male, with the 4 anterior coxæ entirely black, or with the tip yellow; trochanters yellow, red, or black; femora tawny, tibiæ and tarsi yellow; posterior with the coxæ and femora black, trochanters yellow, with 2 fuscous dots, or black, with the tip fulvous; tibiæ yellow, black from the middle to the apex; tarsi rusty; of the female black, 4 anterior femora red at the tip, tibiæ yellow, the middle pair towards the apex and the hinder ones at the apex black; tarsi red, posterior black; wings yellowish-hyaline; cellule somewhat 3-angular or orbicular, petiolated.

Rare: taken near London and in Salop, in June.

Sp. 40. *delusor*. *Niger, segmentis 2-5 rufis, femoribus tibiisque rufis, posticis apice nigricantibus.* (Long. corp. 3 lin.; Exp. Alar.  $5\frac{1}{2}$  lin.)

Ic. *delusor*. *Linné*.—*Ophion delusor*. *Steph. Catal.* 351. No. 4638.

**Black:** antennæ porrect, rather short; abdomen oblong-ovate, basal segment black, with its extreme margin chestnut; the lateral tubercles prominent; 2nd to 5th red, 6th and 7th fuscous; legs moderate, red, with the coxæ and trochanters black, the posterior also with the knees black, the tarsi and tips of the tibiæ blackish; wings rather smoky-hyaline; cellule none.

Rare: found in June near London.

Sp. 41. *fortipes*. *Niger, femoribus posticis subclavatis, rufis, basi nigrâ, segmentis 2-6 et antennarum apice rufis; mas facie flavâ, pedibus anterioribus flavis, femorum basi nigrâ; fœmina facie nigrâ, pedibus anterioribus nigris apice femorum tibiisque rufis.* (Long. corp.  $3\frac{1}{2}$ —5 lin.; Exp. Alar. 5—9 lin.)

Me. *fortipes*. *Gravenhorst*, ii. 85.—*Steph. Nomen*. 2d edit. Gen. 714. 41.

**Black:** male with the face and mouth yellow, sometimes with a black dot on



the clypeus, female with the palpi straw-coloured; antennæ above fuscous, beneath testaceous or fulvous, the 2 basal joints black, yellow beneath in the male, the terminal ones entirely red; abdomen silky, oblong in the male, ovate-pear-shaped and a little depressed in the female, basal segment black, tip sometimes red, 2nd to 6th red, base of the 2nd occasionally blackish in the male, and the 7th blackish in both sexes; legs moderate, the posterior femora considerably incrassated, 4 anterior yellow; of the male, the former more or less black at the base, black in the female, with the extreme tip of the femora and the tibiæ red; in both sexes the hinder femora are red, black at the base, the tibiæ black, more or less red at the base; wings smoky-hyaline; cellule wanting.

Not very uncommon in several parts of the country in June and July: taken at Coombe and Darenth woods, in the New Forest, at Netley, &c.

Sp. 42. fuscicornis. *Niger, segmentis 1-3, antennis femoribus tibiisque anterioribus, nec non basi tiliarum posticarum, rufis.* (Long. corp. 4—5½ lin.; Exp. Alar. 7—9 lin.)

Ich. fuscicornis. *Gmelin.*—*Me. fuscicornis.* *Steph. Nomen. 2d edit. Gen. 714. 42.*

Black: palpi and mandibles, and occasionally a dot on the clypeus rusty or straw-colour, with the base and apex of the mandibles black; antennæ with the basal joint black, slightly rusty beneath at times, the remainder fulvous, sometimes fuscous above; abdomen pear-shaped, red or chestnut, the 5th segment occasionally with the margin or a dorsal spot black, the 6th and 7th black; ovipositor short, a little bent; legs elongate; 4 anterior red, with the coxæ and trochanters black, and the base of the middle femora sometimes blackish; posterior black, tibiæ either red, with a black tip, or blackish, with the base reddish; tarsi dusky, the intermediate joints rusty- or dull whitish: wings somewhat smoky-hyaline; cellule irregularly 3-angular, petiolated, sometimes minute.

Not uncommon in the vicinity of the metropolis in June; also found at Dover and in Devonshire.

Sp. 43. seminiger. *Niger, segmentis 2-7, pedibus, antennis facieque fulvis.* (Long. corp. 3½—4½ lin.; Exp. Alar. 5—7½ lin.)

*Me. seminiger.* *Gravenhorst, ii. 93.*—*Steph. Nomen. 2d edit. Gen. 714. 43.*

Black: face, cheeks, and mouth fulvous; tips of the mandibles black; antennæ thin, long, rusty or red, sometimes a little dusky above; abdomen tawny-red or testaceous, the apex truncate and somewhat compressed, the basal segment dusky or black, with its tip fulvous; legs dull pale red; wings rather narrow, hyaline; cellule somewhat 3-angular, or orbicular, slightly petiolated.

Taken at Coombe and Darenth woods in June; also in Salop.

Sp. 44. *spilonotus*. *Rufus, oculis, vertice, ocellis, thorace (lateribus colli excepto) abdominis segmento 1-mo maculâque 2-di dorso nigris.* (Long. corp. 4—4½ lin.; Exp. Alar. 7—8 lin.)

Mes. *spilonotus*. *Steph. Nomen. 2d edit. Gen. 714. 44.*

Head pale red; tips of the mandibles pitchy; eyes and ocelli, and a square patch in which the latter are placed black; thorax black, with a pale red triangular patch on the sides of the collar; abdomen with its basal segment black, the remainder pale red, with a round black dot in the middle of the back of the 2nd; legs pale red, hinder coxæ blackish at the base; wings hyaline; stigma fulvous; cellule suborbicular, petiolated.

Apparently very rare; I have taken specimens at Coombe and Darenth woods in June.

Sp. 45. *filicornis*. *Niger, abdominis medio, ore, pedibusque testaceis, femoribus posticis nigricantibus.* (Long. corp. 3—4¾ lin.; Exp. Alar. 5—8 lin.)

Me. *filicornis*. *Gravenhorst, ii. 94.—Steph. Nomen. 2d edit. Gen. 714. 45.*

Black: mouth and clypeus pale red or straw-colour, and sometimes in the male a faint chestnut spot on the face; antennæ slender, porrect, incurved at the tip, red in the female, ferruginous at the base and fuscous at the tip in the male; abdomen slightly silky, a little compressed at the apex in the females, basal segment black, with the margin sometimes reddish; 2nd to 4th red, or chestnut, the base of the 2nd and margin of the 3rd sometimes dusky; 5th to 7th black, the former sometimes chestnut at the base or before the margin; legs slender, red or testaceous, with the hinder femora entirely, or in the middle alone, dusky or black; wings hyaline; cellule somewhat orbicular, and slightly petiolated.

Found in June near London, and at Netley.

Sp. 46. *variator*. *Niger, abdominis medio, pedibusque rufis, facie flavâ.* (Long. corp. 3—4 lin.; Exp. Alar. 5—7½ lin.)

Ic. *variator*. *Gravenhorst, Ped. 118.—Me. variator. Steph. Nomen. 2d edit. Gen. 714. 46.*

Black: face and mouth yellow, with the tip of the mandibles fuscous; antennæ fuscous, with the 1st to about the 5th joints rusty; abdomen with the basal segment black, with its margin reddish, 2nd to 4th red, remainder black, with the base and a lateral spot on the sides of the 5th chestnut; legs pale red; posterior femora fuscous towards the apex; wings hyaline; cellule somewhat 3-angular, petiolated.

Taken within the metropolitan district in June.

Sp. 47. *sternoleucus*. *Niger, abdominis medio pedibusque fulvis, tibiis posticis apice nigro, coxis pectore et facie albis.* (Long. corp. 4—4½ lin.; Exp. Alar. 6—8 lin.)

Me. *sternoleucus*. *Gravenhorst, ii. 99.—Steph. Nomen. 2d edit. Gen. 714. 47.*

Black: mouth, face, and cheeks white; antennæ fuscous, with the 2 basal joints



below white, and the remainder testaceous; thorax with the neck, breast, and the lateral sutures before the wings white; abdomen with the basal segment black, the 2nd to 4th testaceous-red, the 4th often with a black lateral spot, remainder black, with the anal membrane whitish; 4 anterior legs testaceous, with the coxæ and trochanters whitish-straw, as are also the posterior ones, their femora are tawny, the tibiæ pale testaceous, with the tip black and the tarsi black; wings somewhat hyaline; cellule very minute, or totally wanting.

Found near London and in the New Forest, about June.

Sp. 48. *luridator*. *Niger, segmentis 2-4, pedibusque rufis aut testaceis*. (Long. corp. 4 lin.; Exp. Alar. 7 lin.)

Mes. *luridator*. *Gravenhorst*, ii. 100.—*Steph. Nomen. 2d edit. Gen. 715. 48.*

Black: mouth red, clypeus straw-coloured; antennæ ferruginous in the male, red in the female, with the basal joint fuscous; thorax of the male with 2 small acute tubercles on the metathorax; abdomen slender, fusiform in the male, broader and somewhat pear-shaped in the female; the basal joint black, reddish on the margin in the male, 2nd to 4th red, remainder black, with the edges paler; legs moderate, rather slender, and with the coxæ fuscous in the male; of the female the 4 anterior are tawny-testaceous, with the coxæ paler, posterior fulvous, with the coxæ and trochanters paler, the extreme base of the former, with the tip of the tibiæ and the tarsi entirely blackish; wings ample, yellowish-hyaline; cellule indistinctly 3-angular, petiolated.

Found, but rarely, near Coombe wood, in June.

Sp. 49. *gracilis*. *Niger, abdomine, antennis, pedibusque posticis rufis, facie pedibusque anterioribus flavis*. (Long. corp. 3½ lin.; Exp. Alar. 5½ lin.)

Me. *gracilis*. *Steph. Nomen. 2d edit. Gen. 714. 49.*

Black: mouth and face yellow; antennæ slender, incurved at the tip, pale red, with the basal joint yellow beneath; thorax with a yellow dot at the base of the wings; abdomen slender, silky, pale red, the peduncle black; legs moderate, 4 anterior pale yellowish-red, coxæ and trochanters yellow; posterior red, the femora rather short and thick, trochanters yellow; wings ample, hyaline; cellule 3-angular, petiolated.

Taken at Hertford in June.

Sp. 50. *subcompressus*. *Niger, abdomine subcompresso, segmentis 2-5, antennis pedibusque fulvis, trochanteribus, coxis anterioribus, ore facieque flavis*. (Long. corp. 4 lin.; Exp. Alar. 7½ lin.)

Me. *subcompressus*. *Steph. Nomen. 2d edit. Gen. 714. 50.*

Black, slender; mouth and face yellow; tips of the mandibles black; antennæ red, the 2 basal joints yellow beneath; abdomen very slender, subcompressed, the peduncles and basal segment black, 2nd to 5th pale red, 6th and 7th black; legs moderate, 4 anterior pale red, coxæ and trochanters

yellow; tarsi a little dusky towards the apex; wings ample, smoky-hyaline; cellule 3-angular, slightly petiolated.

Taken in June at Darenth wood: rare.

Sp. 51. *geniculosus*. *Niger, abdominis medio, antennis pedibusque rufis, femoribus tibiisque posticis apice nigris, ore flavo.* (Long. corp.  $3\frac{1}{2}$ — $4\frac{1}{2}$  lin.; Exp. Alar.  $5\frac{1}{2}$ —8 lin.)

Me. *geniculosus*. *Gravenhorst*, ii. 102.—*Steph. Nomen*. 2d edit. Gen. 714. 51.

Black: mouth yellow; mandibles black at the tip and base; antennæ incurved at the tip, rusty-red, obscure above, the basal joint blackish, reddish or yellow beneath; abdomen oblong, basal segment black, its apex red, 2nd to 4th red, remainder black, the 5th, though rarely, with its base red; legs moderate; 4 anterior either entirely yellow, or fulvous, with the coxæ and trochanters yellow, posterior red, trochanters yellow, the tips of the femora and of the tibiæ black, the tibiæ sometimes yellowish towards the base; tarsi red; wings stained hyaline; cellule minute, 3-angular, petiolated.

Also taken near London, in June and July.

Sp. 52. *Antilope*. *Niger, abdomine rufo, segmentis 5-7 dorso nigricante, pedibus rufis, thorace ferrugineo maculato, antennis 3-coloribus.* (Long. corp.  $3\frac{1}{2}$ —4 lin.; Exp. Alar.  $5\frac{1}{2}$ —8 lin.)

Me. *Antilope*. *Gravenhorst*, ii. 104.—*Steph. Nomen*. 2d edit. Gen. 714. 52.

Black: palpi straw-colour; head sometimes with 2 reddish-brown spots below, and 2 above, the antennæ, the latter porrect, the 4 basal joints rusty, the 1st dusky above, 5 next black, 10th to 15th white, the remainder black; thorax with a line or dot before the wings, another below, and sometimes a spot on the sides of the metathorax ferruginous; abdomen ovate pear-shaped, red, with the 3 terminal segments dusky above; ovipositor very short, a little exserted and curved upwards; legs moderate, red, the base of the trochanters sometimes black, the posterior with the tips of the femora and of the tibiæ sometimes obscurely dusky; wings somewhat hyaline, with a minute 3-angular cellule, or none.

Found near London, in June and July.

Sp. 53. *rufocinctus*. *Niger, segmenti 3-tii dorso rufo, tibiis anterioribus femoribusque rufis, tibiis posticis albidis apice nigro.* (Long. corp. 3 lin.; Exp. Alar.  $4\frac{1}{2}$  lin.)

Me. *rufocinctus*. *Gravenhorst*, i. 686.—*Steph. Nomen*. 2d edit. Gen. 714. 53.

Black: palpi whitish; antennæ curved, rusty towards the apex; abdomen oblong-ovate, the 1st segment black, 2nd subquadrate, also black, 3rd transverse, chestnut-red, towards the margin and on the sides black, the remainder black; legs moderate, 4 anterior pale red, with the trochanters yellowish and coxæ black; posterior with the coxæ and trochanters black, the latter yellowish at the tip; femora red, with the base and extreme apex black; tibiæ whitish, with the tip black; tarsi fuscous; wings somewhat hyaline, iridescent; cellule 3-angular-transverse, petiolated.



Found within the metropolitan district; also in the New Forest and in Norfolk, in June.

Sp. 54. *lævigatus*. *Niger, segmentis 2 et 3, femoribus tibiisque anterioribus totis, posticis pro parte, rufis.* (Long. corp.  $2\frac{1}{2}$ —5 lin.; Exp. Alar. 4—7 lin.)

Me. *lævigatus*. *Gravenhorst*, ii. 111.—*Steph. Nomen*. 2d edit. Gen. 714. 54.

Black: palpi ferruginous or fuscous; mandibles sometimes rusty; antennæ black, the 3rd to 5th joints sometimes ferruginous beneath, the remainder obscure fuscous, in the female generally of that colour below; abdomen very smooth and glossy, broad, oblong-ovate, rather acute in the female; basal segment long, slender, with 2 elevated lines, black, 2nd and 3rd red, 4th to 7th black, and silky in the male; legs moderate, or slenderish; 4 anterior red, with the coxæ and trochanters black, posterior black, tibiæ reddish, with the base and apex, or the apex alone black, femora sometimes reddish at the base, or with the convex side chestnut, rarely red, with the base alone black; wings somewhat hyaline; cellule obscurely 5-angular, the outer nervure being obsolete.

Not uncommon at Darenth wood, and in other places within the metropolitan district, about June.

Sp. 55.\**decipiens*. *Niger, segmento 2do et petioli basi castaneis, pedibus fuscis, femorum basi et apice testaceis, tibiis posticis ferrugineis apice nigro.* (Long. corp. 2 lin.; Exp. Alar.  $3\frac{1}{2}$  lin.)

Me. *decipiens*. *Gravenhorst*, ii. 116.—*Steph. Nomen*. 2d edit. Gen. 714. 55.

Black: antennæ rather short, rusty-brown, with the basal joint black; abdomen lanceolate, or oblong-ovate, with the 1st segment black, its peduncle chestnut-red towards the base, the 2nd chestnut, with the margin paler, the remainder black, or the 3 first segments black, with the margins fulvous; legs moderate, brown, with the base and apex of the femora pitchy-testaceous, posterior tibiæ red, with the tip dusky; wings smoky-hyaline; cellule somewhat 5-angular, incomplete.

Found not very commonly in the vicinity of London; taken also in Norfolk in July.

\* I am fully aware of the existence of other species of this genus; but, unfortunately, circumstances oblige me to remain silent respecting them:—having recently selected nearly all the unascertained and nondescript species thereof from my cabinets, and placed them on a setting-board in a closet for examination and description, the greater portion of them were so sadly mutilated by Blattæ during the only night they were so exposed, as to render their investigation unsatisfactory: I hope, however, to be enabled to ascertain some of them in time for the Appendix, to which I must beg the reader to refer.

I may here take the opportunity of remarking, that although in very numerous instances Gravenhorst has drawn up his descriptions from single specimens

GENUS XLV.—TRYPHON, *Fallen*.

*Antennæ* slender or moderate, either as long as, or shorter than, the body, with the apex more or less curved, in rare instances a little thickened in the middle: *head* generally the width of the thorax, or rather narrower, rarely broader, in 2 instances with a frontal horn: *eyes* ovate, or a little orbiculate, more or less prominent: *thorax* gibbous, or somewhat globose: *scutellum* convex, 3-angular, with the apex obtuse: *wings* moderate; cellule 3-angular, or suborbiculate, sometimes minute, and occasionally wanting; rarely 5-angular; the inner nervure of the exterior cubital areolet sometimes producing the rudiment of the divisional nervure, which forms so prominent a character in the *Ichneumon*es adsciti: *abdomen* subsessile or slightly petiolated, rarely sessile, oblong, or a trifle lanceolated, or subclavate; the basal segment channelled, the lateral tubercles generally placed beyond the middle; in the females the apex of the abdomen is slightly thickened, and at times a little compressed: *ovipositor* very short, and slightly exserted; *legs* mostly short or moderate; in a few instances rather elongate and slender; in others short, and with the femora thickened.

Of all the genera of *Ichneumonidæ*, none, perhaps, is composed of more dissimilar subjects, so that it becomes extremely difficult to draw the line of demarcation between many of them and those of allied genera: one set of species is closely allied to the genus *Bassus*, others to *Mesoleptus*, some again to *Phygadeuon*, and others to *Stilbonota*; in fact, the genus is, apparently, a magazine for placing all strange species that will not readily assimilate elsewhere: from amongst these discordant insects we are informed, by Mr. Curtis, that the genus *Cteniscus* has been formed by Mr. Haliday, to embrace *Tr. 6-liturgatus* and its congeners: another genus might be, with equal propriety, formed of *Tr. elegantulus*, a third from *Tr. insolens*, &c., and will doubtless be eventually formed.

§ I. *Scutellum* and *abdomen* black, with the extreme edges of the segments frequently pale.

Sp. 1. *niger*. *Niger, facie et tibiæ posticarum medio albo-testaceis, pedibus anterioribus rufis, trochanteribus stramineis, coxis nigris.* (Long. corp.  $4\frac{1}{4}$ —5 lin.; Exp. Alar.  $7\frac{1}{2}$ —8 lin.)

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only, I have been enabled to verify his species, in many cases, as such, from having been nearly as great a length of time (above 25 years) in accumulating indigenous species, as the learned Professor was in collecting European ones; but the subject is of so great an extent, that although I may give a tolerable epitome of the numbers found in this country, much remains to be performed.



Tr. niger. *Gravenhorst*, ii. 126.—*Steph. Nomen*. 2d edit. Gen. 715. 1.

Black: mouth and face straw-colour; mandibles black at the tip; antennæ straw-colour, above ferruginous, red towards the apex; thorax with a whitish dot at the base of the wings; ovipositor extremely short, slightly exserted; legs rather slender, 4 anterior pale red, coxæ black, with a straw-coloured dot at the apex, trochanters straw-colour; posterior legs black, with the tip of the trochanters pale straw, tibiæ straw colour, with the extreme base and the apex black; tarsi testaceous-brown; wings slightly smoky-hyaline; cellule irregularly 3-angular, somewhat sessile.

Rare: found in the beginning of June at Darenth wood.

Sp. 2. prærogator. *Niger, ore pedibusque fulvis, coxis posticis antennisque maris fuscis; fœminæ fulvis*. (Long. corp. 3—5½ lin.; Exp. Alar. 4—8½ lin.)

Ich. prærogator. *Linné*.—Try. prærogator. *Steph. Catal.* 351. No. 4472.

Black: palpi and mandibles fulvous, the apex of the last black, labrum and margin of the clypeus fulvous; antennæ a little curved at the apex; of the male entirely black-brown, of the female rusty-fulvous, more or less fuscous towards the base; abdomen of the male narrow and somewhat linear; of the female as wide as the thorax and oblong, thickened at the apex, 2nd and 3rd segments with their edges sometimes a little fuscous; legs moderate, fulvous, the hinder pair with the extreme tips of the femora and of the tibiæ, and also the basal joint of the tarsi dusky; the posterior coxæ, and rarely also the middle pair of the male black; wings somewhat hyaline, of a glaucous hue; cellule large, transverse, regularly 3-angular, more or less petiolated.

The posterior femora are sometimes dusky.

Extremely abundant in some parts of the country in June and July: common at Darenth and Coombe woods, near Hertford, &c.

Sp. 3. flavilabris. *Sericans, niger, pedibus fulvis, ore labroque flavo*. (Long. corp. 4—5¼ lin.; Exp. Alar. 7—9 lin.)

Tr. flavilabris. *Steph. Nomen*. 2d edit. Gen. 715. 3.

Black, silky and very glossy: palpi pale; mouth and labrum yellow, tip of the mandibles black; antennæ black, a little fuscous at the apex in both sexes, and incurved; abdomen elongate, subclavate, and somewhat sessile; legs in both sexes entirely pale fulvous; wings glossy, hyaline; cellule 3-angular, sessile and regular.

Apparently not uncommon, at least within the metropolitan district, and in Salop, at the end of summer.

Sp. 4. compunctor. *Niger, sericeus, pedibus rufis, coxis et tibiæ posticarum apice nigris, ore et antennis ferrugineis*. (Long. corp. 3—5 lin.; Exp. Alar. 5—7½ lin.)

Ich. compunctor. *Linné*.—*Steph. Catal.* 345. No. 4315.

Black: mouth ferruginous, the base and apex of the mandibles black;

antennæ either red, paler beneath, or rusty, with the tip fuscous, the basal joint always black; abdomen silky, of the male linear, of the female a little thickened at the apex, and in general with the 2nd and 3rd segments with the extreme margin somewhat testaceous, and those of the 6th and 7th a little whitish; legs red or tawny; coxæ black, the tip of the hinder tibiæ black, their tarsi generally dusky, with the base of the 1st joint pale; wings hyaline; cellule irregularly 3-angular, and slightly petiolated.

Taken, but very rarely, near London, in June.

Sp. 5. clypeator. *Niger, clypeo pedibusque rufis, coxis et trochanteribus nigris, abdomine incisuris 1-4 rufescentibus.* (Long. corp. 4 lin.; Exp. Alar. 7 lin.)

Me. clypeator. *Gravenhorst*, ii. 131.—*Steph. Nomen. 2d edit. Gen.* 715. 5.

Black: clypeus and mandibles red, face slightly silky; abdomen somewhat linear, with the 1st to 5th segments a little broadest, the 1st to 4th incisures reddish; legs red, the coxæ and trochanters black; wings rather smoky-hyaline; cellule somewhat irregularly 3-angular, petiolated.

Also found, in June, near London, but very scarce.

Sp. 6. alacer. *Niger, ore pedibusque rufis, horum posticis apice tibiæ tarsisque nigris.* (Long. corp. 4½ lin.; Exp. Alar. 7½ lin.)

Me. alacer. *Gravenhorst*, ii. 132.—*Steph. Nomen. 2d edit. Gen.* 715. 6.

Black: mouth dull red, with the tips of the mandibles black; antennæ rather longer than the body, with the apex a little curved; abdomen silky, with the extreme margins of the segments somewhat chestnut; legs rather slender, red, with the hinder tibiæ and tarsi black, the former reddish towards the base; wings hyaline; cellule irregular, obliquely petiolated.

Taken in June in the vicinity of the metropolis.

Sp. 7. caligatus. *Niger, ore, puncto scutellari pedibusque rufis, tarsis et tibiis posticis nigris, his ante basin rufo-albidis; mas facie flavá.* (Long. corp. 4—5½ lin.; Exp. Alar. 7½—9 lin.)

Tr. caligatus. *Gravenhorst*, ii. 170.—*Steph. Nomen. 2d edit. Gen.* 715. 7.

Black: male with the face and mouth yellow, female with the mouth red; antennæ ferruginous, sometimes fuscous above, the 1st to 3rd joints black beneath; thorax with a whitish or reddish spot before the wings, another beneath, and sometimes a 3rd beneath the scutellum, and a minute dot of the same at the tip of the scutellum; abdomen rather slender, very glossy; legs red, posterior pair with the tibiæ and tarsi black, the former palish or reddish towards the base; wings somewhat hyaline; cellule wanting, or minute, 3-angular, and petiolated.

Taken near London, at the end of June.

Sp. 8. nitidus. *Niger, pedibus rufis, trochanteribus posticis coxisque nigris.* (Long. corp. 5 lin.; Exp. Alar. 8½ lin.)

Tr. nitidus. *Gravenhorst*, ii. 134.—*Steph. Nomen. 2d edit. Gen.* 715. 8.

Black: palpi and labrum rusty-red; antennæ slender, shorter than the body,



the tip curved; abdomen smooth, shining, narrower than the head and thorax, the basal segment distinctly widened towards its apex, the 2nd to 6th of equal width; legs slender, tawny-red, the coxæ black, with the extreme tip red, the hinder trochanters black above, and the posterior tarsi fuscous; wings hyaline, iridescent; cellule irregularly 3-angular, petiolated.

Found, in July, at Darenth wood.

Sp. 9. *maculicollis*. *Niger, pedibus rufis, coxis et trochanteribus anterioribus pallidioribus, tarsis posticis et tiliarum posticarum apice nigris, ore et maculâ antè alas flavis, cellulâ nullâ.* (Long. corp. 3 lin.; Exp. Alar. 5 lin.)

Tr. *maculicollis*. *Steph. Nomen. 2d edit. Gen. 715. 9.*

Black, shining: mouth bright yellow, with the tips of the mandibles black; thorax with a light yellow dot before the wings, at the base; abdomen glossy, smooth, with the extreme edge of the 4 last segments whitish; legs tawny-red, with the 4 anterior coxæ and trochanters paler, or yellowish; hinder tarsi and their tibiæ at the apex black; wings hyaline; cellule wanting.

Found in July near London.

Sp. 10. *integrator*. *Niger, pedibus rufis, posticorum tarsis et tiliarum apice nigris, ore flavo; mas facie flavâ.* (Long. corp. 2½—4 lin.; Exp. Alar. 4—7 lin.)

Ich. *integrator*. *Müller Prod. No. 1824.—Tr. integrator. Steph. Nomen. 2d edit. Gen. 715. 10.*

Black: mouth yellow; male with the face yellow, sometimes with a short longitudinal black line; antennæ slender, the 3 basal joints black (the 1st rarely yellow beneath), the remainder generally reddish, or rarely red; abdomen of a silky hue, with a bluish tint; legs red, the apex of the hinder tibiæ and their tarsi entirely black; wings slightly smoky-hyaline; cellule irregularly 3-angular, petiolated.

Taken, but rarely, near London, and in the New Forest, in June.

Sp. 11. *subnitidus*. *Niger, segmentorum marginibus flavicantibus, femoribus tibiisque anterioribus subtus stramineis, ore et antennis subtus flavis.* (Long. corp. 3 lin.; Exp. Alar. 5½ lin.)

Tr. *subnitidus*. *Gravenhorst, ii. 144.—Steph. Nomen. 2d edit. Gen. 715. 11.*

Black: mouth yellow, with the base and apex of the mandibles black; antennæ short, and in general dull reddish or yellowish beneath, with the 3 basal joints black; abdomen with the basal segment channelled and entirely black, the remainder with the extreme margins pale whitish yellow, with a reddish tint on the sides of the 4th to 6th; legs moderate; 4 anterior with the coxæ and trochanters black, their femora black, pitchy straw-colour beneath, tibiæ and tarsi obscure red-brown, beneath straw-colour; posterior black, with the tarsi fuscous; wings somewhat hyaline; cellule irregularly 3-angular, petiolated.

The femora are sometimes entirely red above.

Found at the Hermitage in August, and in other places within the metropolitan district; apparently not common.

Sp. 12. *scalaris*. *Niger, marginibus dorsalibus segmentorum facie et lineâ ante alas, albidis, pedibus fulvis, coxis posticis nigris, antennis subtus ferrugineis, articulis 1 et 2 albidis.* (Long. corp. 3—4 lin.; Exp. Alar. 5—7 lin.)

Tr. *scalaris*. *Gravenhorst*, ii. 149.—*Steph. Nomen. 2d edit. Gen.* 715. 12.

Black: face, mouth, and cheeks whitish-yellow; base of the mandibles, and sometimes 3 dots beneath the antennæ, black; antennæ fuscous above, rusty beneath, with the 1 or 2 basal joints whitish; thorax with an irregular streak on the margin of the collar, and a dot below the wings yellowish-white; abdomen oblong, somewhat sessile, basal segment with 2 slightly elevated lines, and frequently with a white dot on its dorsal edge, the remaining ones with a marginal dorsal line or dot, of similar hue; legs red; 4 anterior coxæ and trochanters pale yellow; posterior coxæ black, with the tip and their trochanters pale yellow beneath, the latter above black, with the apex tawny, the apex of the tibiæ and the tarsi fuscous; wings hyaline; cellule irregularly 3-angular, petiolated.

Found at Coombe wood in June: rare.

Sp. 13. *calcator*. *Niger, pedibus fulvis.* (Long. corp.  $2\frac{1}{2}$ —3 lin.; Exp. Alar. 4— $5\frac{1}{2}$  lin.)

Tr. *calcator*. *Gravenhorst*, ii. 138.—*Steph. Nomen. 2d edit. Gen.* 715. 13.

Black: labrum and mandibles ferruginous; antennæ rather above half the length of the body, slightly curved at the tip, blackish, a little rusty towards the apex; scutellum elevated; abdomen subsessile, as broad as the thorax, ovate, and a little depressed, the 4 basal segments with a more or less distinct channel, the basal one nearly as broad as long, slightly narrowed towards the peduncle; the margins of the 2 next narrowly edged with chestnut; legs short, entirely tawny-red; wings moderate, hyaline; cellule wanting.

Scarce: taken in July, near London.

Sp. 14. *pinguis*. *Niger, marginibus segmentorum rufescentibus, pedibus flavis posticorum coxis et femoribus, nec non tiliarum et articulorum tarsi apicibus nigris: fœmina antennis subtus ferrugineis.* (Long. corp. 3—4 lin.; Exp. Alar. 5— $7\frac{1}{2}$  lin.)

Tr. *pinguis*. *Gravenhorst*, ii. 150.—*Steph. Nomen. 2d edit. Gen.* 715. 14.

Black and silky: male with the palpi and labrum red, mandibles yellow; female with the mouth yellowish, the tips of the mandibles black; antennæ shorter than the body, of the male rusty-brown beneath, with the basal joint yellow; of the female with the 2 basal joints yellow, 3rd black, the remainder generally ferruginous; abdomen rather broad, especially in the female, oblong or ovate, somewhat sessile; the extreme margins of the segments red or chestnut; legs more slender in the male than in the female, 4 anterior yellow, the coxæ black, yellow beneath; femora tawny without,



black towards the base, posterior coxæ black, trochanters yellow; femora black, with the extreme tip yellow, tibiæ whitish or yellow, with the apex black; hinder tarsi of the male black, with the base of the first 3 joints white, of the female fulvous, with the tips of all the joints black.

The females of this, as also of *Tr. varitarsus*, and other species, are remarkable for bearing a mass of vesicular appendages beneath the abdomen.

Not common: taken at Darenth wood in May, and in other places within the metropolitan district.

Sp. 15. *nævius*. *Niger, marginibus segmentorum summis albidis, pedibus rufis, posticorum tarsis et tibiæ apice fuscis, facie et thoracis picturis flavis.* (Long. corp.  $2\frac{1}{2}$ —4 lin.; Exp. Alar. 4—7 lin.)

Ich. *nævius*. *Gmelin Lin.* 2699.—*Tr. nævius*. *Steph. Nomen. 2d edit. Gen.* 715. 15.

Black: mouth, face, and a dot on the cheeks yellow, mandibles black or rusty at the tip; antennæ nearly as long as the body, curved at the apex, fuscous or rusty, with the basal joint beneath yellow in the male, rusty in the female, in which sex the thorax has a yellow dot before the wings, the male a line before them, a streak beneath the lower part of the collar, and a broad streak or 2 narrow ones on each side of the breast, yellow; abdomen with the margin of the 2nd segment generally reddish, and of the 4th to 7th whitish; legs of the male slender, 4 anterior tawny-red, with the coxæ and trochanters yellow; posterior the same, with the trochanters yellowish beneath, the tarsi and apex of the tibiæ, and sometimes of the coxæ, black; of the female the legs are red, with the 4 anterior coxæ testaceous, the hinder tarsi brown and the tibiæ testaceous, with the tips fuscous; wings hyaline; cellule somewhat regular and petiolated, 3-angular.

Rare: found near London in July.

Sp. 16. *fasciatus*. *Niger, tarsis tibiisque anterioribus femoribusque rufis, segmentis 2 et 3 fasciâ castaneâ.* (Long. corp. 3 lin.; Exp. Alar. 5 lin.)

*Tr. fasciatus*. *Gravenhorst, ii.* 139.—*Steph. Nomen. 2d edit. Gen.* 715. 16.

Black: palpi pitchy straw-colour; antennæ slightly curved at the tip; abdomen narrow, oblong, somewhat sessile; the basal segment with an obsolete channel, the 2nd and 3rd with an obscure chestnut fascia towards the margin, the last sometimes interrupted; legs moderate, tawny-red, with the coxæ and trochanters black; posterior pair with the tips of the femora, the tarsi and tibiæ blackish, the latter reddish towards the base; wings hyaline; cellule small, irregular, somewhat petiolated.

Scarce; found in June near London.

Sp. 17. *nanus*. *Niger, basi antennarum flavâ, pedibus fulvis, coxis anterioribus albis, posticis nigris, cellulâ 5-angulari.* (Long. corp.  $1\frac{3}{4}$  lin.; Exp. Alar. 3 lin.)

*Tr. nanus*. *Gravenhorst, ii.* 155.—*Steph. Nomen. 2d edit. Gen.* 715. 17.

Black: palpi white; mandibles yellow; face with a griseous pile; antennæ

with the basal joint yellow, having a black dot above, the remainder black, the 2nd to 5th testaceous beneath; abdomen somewhat sessile, oblong-ovate, as broad as the thorax, the basal segment narrowed towards the base, and nearly 3-angular; legs moderate, tawny straw-colour, 4 anterior coxæ and trochanters whitish, posterior coxæ black, with the tips and the trochanters whitish; tarsi with the apex and extreme base of the tibiæ blackish; wings hyaline, iridescent; cellule 5-angular.

Taken, in July last, at Hertford.

§ II. *Scutellum* with pale marks; *abdomen* either totally black, or with the edges of the segments pale.

Sp. 18. *nigritarsus*. *Niger, pedibus fulvis, posticorum tarsis tibiisque nigris, his medio albis, mandibulis flavis.* (Long. corp. 3 lin.; Exp. Alar.  $5\frac{1}{2}$  lin.)

Tr. *nigritarsus*. *Gravenhorst*, ii. 158.—*Steph. Nomen*. 2d edit. Gen. 715. 18.

Black: palpi rusty-pitchy; mandibles yellow, black at the tip; labrum ferruginous; antennæ involuted at the apex, fuscous, or red, above fuscous with 1 or 2 basal joints black; scutellum with its apex, or the sides only, whitish; abdomen nearly sessile, oblong, the basal segment slightly channelled and dilated towards the apex; legs moderate, fulvous; posterior with the tarsi black, tibiæ white, with the base and apex black; wings hyaline; cellule small, irregular, petiolated.

Found at Darenth wood in July.

Sp. 19. *sexlitturatus*. *Niger, marginibus segmentorum, facie, pectore, lineâ ante alas, albidis; antennis subtus pedibusque fulvis, tarsis posticis fuscis.* (Long. corp.  $2\frac{1}{2}$ —4 lin.; Exp. Alar.  $4\frac{1}{2}$ — $6\frac{1}{2}$  lin.)

Tr. *sexlitturatus*. *Gravenhorst*, ii. 159.—*Steph. Nomen*. 2d edit. Gen. 715. 19.

Black: head subglobose; mouth, face, cheeks, and the frontal orbits generally whitish-yellow; antennæ shorter than the body, rusty-tawny beneath, with the 2 basal joints yellow, the base above more or less fuscous; thorax with a line before the wings, and streak beneath and below the scutellum, with the breast and collar beneath pale yellow; scutellum with the apex whitish-yellow; abdomen oblong, somewhat sessile, the basal segment finely aciculated, with 2 elevated longitudinal lines, a white marginal dorsal spot, remainder smooth and shining, each with the sides and a transverse marginal spot white, and ochreous beneath; ovipositor slightly exerted, whitish; legs rather slender, tawny, or pale red, 4 anterior coxæ and trochanters whitish-yellow, posterior with the tarsi and also in general the apex of the tibiæ more or less blackish; wings hyaline, iridescent; cellule 3-angular, irregular, petiolated.

Not common; taken occasionally in July within the metropolitan district, and in Salop.

Sp. 20. *impressus*. *Niger, segmentis 1-3 lineâ transversali impressâ margine testaceo, thorace et scutello albedo notatis, pedibus fulvis, tibiis posticis nigris medio albo.* (Long. corp.  $3\frac{3}{4}$  lin.; Exp. Alar. 6 lin.)



*Tr. impressus.* *Gravenhorst*, ii. 161.—*Steph. Nomen. 2d edit. Gen. 715. 20.*

Black: mouth reddish; antennæ porrect, the basal joint black, remainder fuscous, rusty beneath; thorax with a line before the wings, a dot below them, and a transverse streak beneath the scutellum yellow-white; meta-thorax rough; scutellum with the apex and sides whitish; abdomen thickly punctured, towards the apex of the segments smooth, the basal segment with 2 elevated longitudinal lines, and a transverse groove, the margins whitish, 2nd and 3rd each with an obscure transverse channel, their margins testaceous-white; ovipositor a little exserted, fuscous; legs fulvous; posterior with the tibiæ white, the base and apex black-brown; tarsi black; wings hyaline, iridescent; cellule minute, 3-angular, somewhat petiolated.

Rare: found near London in June.

*Sp. 21. lucidulus.* *Niger, segmentorum marginibus albescentibus, pedibus fulvis, tarsis posticis fuscis, facie genisque flavis.* (Long. corp.  $2\frac{1}{2}$ —3 lin.; Exp. Alar. 4— $5\frac{1}{2}$  lin.)

*Tr. lucidulus.* *Gravenhorst*, ii. 162.—*Steph. Nomen. 2d edit. Gen. 715. 21.*

Black: head somewhat glabrous, swollen, with the face, cheeks, and mouth yellow, the former occasionally with a short black streak; antennæ half the length of the body, black, somewhat ferruginous beneath towards the tip; thorax with the lower part of the collar, and sometimes the lateral edge and a streak beneath the scutellum, and also the apex of the latter, yellow; abdomen oblong, the 1st segment a little dilated towards the tip, and channelled, entirely black, the remainder with the lateral margins and the extreme edge whitish, the 2nd and 3rd sometimes a little chestnut before the margin, beneath ochreous; ovipositor concealed; legs slender, fulvous, coxæ and 2 or 4 anterior trochanters more or less pale yellow, posterior tarsi and apex of the tibiæ brownish; wings hyaline; cellule irregular, more or less petiolated.

Found in August near London; I took several specimens at the Hermitage last year at that period.

*Sp. 22. sexcinctus.* *Niger, segmentorum marginibus albidis, maculis 2-bus faciei flavis, pedibus rufis, posticorum tibiis tarsisque fuscis.* (Long. corp. 3 lin.; Exp. Alar.  $5\frac{1}{2}$  lin.)

*Tr. sexcinctus.* *Gravenhorst*, ii. 164.—*Steph. Nomen. 2d edit. Gen. 715. 22.*

Black: head subglobose; mouth, clypeus, and 2 dots on the face yellow; mandibles with the tip black, the apex of the clypeus sometimes rusty; antennæ shorter than the body, fuscous, occasionally rusty beneath, the basal joint black; thorax with a streak below the scutellum, and the latter more or less yellow; abdomen shining, silky, rather narrower than the thorax, linear-oblong, the basal segment more or less deeply channelled, entirely black, the remainder with the lateral and apical margins whitish, the 7th sometimes with a tawny edge, beneath yellow; legs slender, red or

tawny; posterior tarsi and tibiæ fuscous, and generally the upper portion of the coxæ and the base of the trochanters blackish and silky; wings hyaline; cellule irregular, petiolated.

Rare: taken within the metropolitan district in July.

Sp. 23. *quinquecinctus*. *Niger, segmentorum marginibus albis, pedibus fulvis, posticorum tarsis tibiisque nigris, facie albo-flavâ, antennis subtus fulvis, articulo 1-mo albo.* (Long. corp. 4 lin.; Exp. Alar. 7 lin.)

Tr. *quinquecinctus*. *Gravenhorst, ii. 165.—Steph. Nomen. 2d edit. Gen. 715. 23.*

Black: head subglobose, broader than the thorax; face and mouth yellowish-white; antennæ shorter than the body, porrect, fuscous, tawny beneath, with the basal joint whitish; thorax with a transverse line below the scutellum, and sometimes the lower part of the collar and a spot on the sides of the metathorax yellow-white; scutellum white at the tip; abdomen somewhat sessile, a little narrower than the thorax, the basal segment with 2 elevated lines, the 2nd with a marginal white dorsal streak, the remainder more glossy, with the lateral and apical margins broadly white; legs rather slender, tawny, 4 anterior paler beneath; posterior with the tibiæ and tarsi black and silky; wings hyaline; cellule irregular, petiolated.

Also rare, and found within the metropolitan district, in July.

Sp. 24. *elegans*. *Niger, segmentorum marginibus albidis, pedibus rufis, posticorum tarsis nigris, tibiis fulvescentibus apice nigro, ore trochanteribusque anterioribus flavis, scutello rufo.* (Long. corp. 4 lin.; Exp. Alar. 8 lin.)

Tr. *elegans*. *Steph. Nomen. 2d edit. Gen. 715. 24.*

Black, shining: mouth yellow; palpi straw-coloured; antennæ black, beneath, except the basal joint, tawny-red; thorax with a yellow dot before and at the base of the wings; abdomen very smooth, rather broad, the 1st and 2nd segments edged with tawny-white, the remaining ones rather broadly edged with brightish white; legs bright red, the 4 anterior trochanters, and their tibiæ in front, yellow; posterior tibiæ pale fulvous, with their apex black; hinder tarsi black; wings ample, hyaline; cellule 3-angular, petiolated.

Rare: taken in June at Darenth wood.

Sp. 25. *aulicus*. *Niger, pedibus fulvis aut rufis, posticorum tarsis et tibiis nigris, his medio albis; mas facie flavâ; antennis subtus testaceis; fœmina ore testaceo.* (Long. corp. 3—4 lin.; Exp. Alar. 5—7 lin.)

Tr. *aulicus*. *Gravenhorst, ii. 173.—Steph. Nomen. 2d edit. Gen. 715. 25.*

Black: male with the mouth and face pale yellow, the tip of the mandibles black; former with the mouth testaceous and the clypeus sometimes ferruginous; mandibles with the apex black; antennæ fuscous, testaceous beneath, with the 1st and 2nd joints pale yellow; of the females as long as the body, with the tip recurved, black, mostly fuscous beneath; thorax with a more or less distinct yellow dot before and beneath the wings, and in the female with 2 minute dorsal ones before the collar and on the upper margin



of the male ; beneath the scutellum in the male is a red dot, and in the female, generally, a yellow one ; in the former sex the scutellum is red, and in the latter entirely, or at the apex only, white ; abdomen of the male with the basal segment channelled, the 3rd dull chestnut on the back ; of the female fusiform, the basal segment slightly channelled, the remainder more or less distinctly margined with whitish ; legs moderate, fulvous, red in the female, 4 anterior in the male pale or yellowish ; posterior with the tarsi black, tibiæ white, with the extreme base and the apex black, spurs white ; the tip of the femora sometimes black in the female ; wings hyaline ; cellule wanting, or with a mere vestige of the outer nervure.

Found in July near London.

Sp. 26. *opticus*. *Niger, segmentorum nonnullorum marginibus, lineâ ante alas, oreque albidis, pedibus rufis, posticorum tarsis nigris, tibiis albis apice nigro ; thoracis picturis albidis aut rufis ; mas facie flavâ.* (Long. corp. 3—3½ lin. ; Exp. Alar. 5—6½ lin.)

Tr. *opticus*. *Gravenhorst*, ii. 176.—*Steph. Nomen. 2d edit. Gen. 715. 26.*

Black : face and mouth yellow in the male, the latter and clypeus white in the female ; mandibles black at the tip ; eyes prominent ; antennæ of the male fuscous, beneath rusty, with the 2 basal joints yellow ; thorax with a line before the wings, another beneath them, a dot under the scutellum, a linear spot on the breast, the lower part of the collar, and the suture between the pro- and metathorax, and the scutellum yellow ; of the female with the line before the wings and dot beneath the scutellum and the tip of the last white ; the breast, lateral spot on the metathorax, and base of the scutellum red ; abdomen beneath and with the margins of the 2nd to 4th, or to the 7th in the female, white ; legs fulvous, and in the females red ; 4 anterior in the male with the coxæ and trochanters reddish-white, tibiæ paler, posterior tibiæ white, with the tip black, in the male, and black, with a white ring, in the female ; wings hyaline ; cellule irregular, petiolated.

Taken in the vicinity of London in June, at Darenth wood.

Sp. 27. *hæmatodes*. *Niger, segmentorum marginibus summis albidis, scutello pedibusque rufis, tarsis posticis et tibiarum posticarum apice nigris, ore et lineâ ante alas flavis.* (Long. corp. 3 lin. ; Exp. Alar. 5¼ lin.)

Tr. *hæmatodes*. *Gravenhorst*, ii. 177.—*Steph. Nomen. 2d edit. Gen. 715. 27.*

Black : mouth yellow ; antennæ rusty-brown, with the 2 basal joints black ; thorax with a dot below the wings and a line before them, hooked at the tip, yellow, the scutellum and a dot beneath dull red ; abdomen beneath yellow, above with the margins of the basal segments distinctly whitish, and of the 3 terminal ones faintly so ; legs tawny-red, 4 anterior with the coxæ and trochanters beneath yellow, posterior with the tarsi and the tips of the tibiæ black ; wings hyaline, iridescent.

Also found in June near London.

Sp. 28. *sternoxanthus*. *Niger, segmentorum marginibus obsoletissime albidis,*

*facie pectore et lineâ ante alas flavis, pedibus fulvis, coxis anterioribus flavis, tursis posticis et tibiârum posticarum apice fuscis.* (Long. corp.  $3\frac{1}{4}$  lin.; Exp. Alar.  $5\frac{1}{2}$  lin.)

Tr. sternoxanthus. *Gravenhorst*, ii. 178.—*Steph. Nomen. 2d edit. Gen.* 715. 28.

Black: mouth and face yellow, the latter with a short longitudinal black line; antennæ porrect, longer than the body; thorax with a line before the wings, hooked at the tip, a streak beneath them, and the breast, yellow; scutellum yellow, dull red in the middle; abdomen with the margins of the segments obsoletely white; legs tawny-red, 4 anterior with the coxæ and trochanters yellow; posterior with the tarsi and tip of the tibiæ black, the base of the latter dull luteous; wings somewhat hyaline, iridescent; cellule none, or irregular, subsessile.

Found at Darenth wood in June and July, but rare.

Sp. 29. armillatorius. *Niger, segmentis pallide marginatis, mediis dorso testaceis, pedibus rufis anterioribus coxis et trochanteribus flavis, posticis tarsis et tibiârum apice nigris, pectore facie et thoracis picturis albidis.* (Long. corp. 3—4 lin.; Exp. Alar. 5—7 lin.)

Tr. armillatorius. *Gravenhorst*, ii. 182.—*Steph. Nomen. 2d edit. Gen.* 715. 29.

Black: face and mouth yellow, whitish, or rosy; tip of the mandibles brown; antennæ more or less curved at the apex, with the 2 basal joints whitish or yellow beneath, the remainder rusty or fulvous; thorax with the margin of the collar, the breast, a broad sutural line or spot before the wings, a dot beneath them, and frequently a streak below the scutellum, and the lateral suture between the pro- and metathorax, and the scutellum, yellow; abdomen rather depressed, the margins of the 2nd to 7th segments, and rarely that of the 1st, whitish, the intermediate ones somewhat testaceous, the colour sometimes extending on the back so as to form an irregular confluent spot on the 3rd and 4th segments; legs rather slender, red; 4 anterior with the coxæ and trochanters, and sometimes the base of the femora pale yellow; posterior with the tarsi blackish, the tibiæ testaceous or whitish, with the apex black or fuscous, and sometimes that of the femora the same, with their coxæ and trochanters more or less yellow beneath; wings hyaline, iridescent; cellule wanting, or obscurely and irregularly 3-angular.

Scarce: taken near London in June and July.

Sp. 30. thoracicus. *Niger, prothorace pectore scutello pedibusque rufis, horum posticis apice nigro, segmentorum marginibus albidis: mas facie flavâ, lineâ longitudinali nigrâ.* (Long. corp. 4 lin.; Exp. Alar.  $5\frac{1}{2}$  lin.)

Tr. thoracicus. *Steph. Nomen. 2d edit. Gen.* 715. 30.

Black: face in the male yellow, with a longitudinal black streak; tips of the mandibles black; antennæ fuscous, reddish beneath and towards the tip, which is curved; thorax pitchy, its disc or prothorax bright red; collar, a streak before the wings, and one beneath them entirely pale yellow; the pleuræ, breast, and scutellum red; a spot below the scutellum and 2 obscure



ones on the metathorax dull pitchy-red ; abdomen slender, elongate-clavate, the edges of the segments more or less broadly whitish ; legs pale red, posterior darkest, and with the tips of their tibiæ and their tarsi black ; wings hyaline ; cellule wanting.

Rare : taken in June at Darenth wood.

Sp. 31. *formosus*. *Niger, prothoracis dorso rufo, ore, picturis thoracis et marginibus segmentorum albidis, pedibus fulvis, posticis tarsis et tibiæ apice nigris : mas facie albidâ, pedibus anterioribus stramineis ; fœmina punctis 2-bus faciei albidis.* (Long. corp.  $3\frac{1}{4}$ —4 lin. ; Exp. Alar.  $5\frac{1}{2}$ —7 lin.)

Tr. *formosus*. *Gravenhorst, ii. 185.—Steph. Nomen. 2d edit. Gen. 715. 31.*

Black : mouth and clypeus whitish ; face of the male entirely whitish, of the female black, with a small white dot on the inner orbits ; antennæ of the male fuscous, beneath rusty, with the 2 basal joints whitish ; of the female ferruginous, with the first 2 joints black ; thorax of the male black, prothorax red on the back, with the breast, margins of the collar, a hooked streak before the wings, a dot beneath them and below the scutellum whitish ; of the female with the anterior prothorax red, the collar black, with yellow lines and dots in the same places as the whitish ones of the male ; metathorax whitish ; abdomen with the margins of the segments greenish-white, the base of the 3rd fulvescent, all whitish beneath ; legs fulvous, the posterior tarsi and apex of the tibiæ black ; 4 anterior coxæ and trochanters in the male flavescent ; wings hyaline ; cellule wanting.

Found, but rarely, near London in June.

Sp. 32. *sanguinicollis*. *Niger, prothorace, scutello et pedibus rufis, horum posticis apice nigro, segmentorum marginibus summis albis : mas facie, coxis et trochanteribus anterioribus, picturisque thoracis flavis.* (Long. corp.  $2\frac{1}{2}$ — $3\frac{1}{2}$  lin. ; Exp. Alar.  $5\frac{1}{2}$ —6 lin.)

Tr. *sanguinicollis*. *Gravenhorst, ii. 187.—Steph. Nomen. 2d edit. Gen. 715. 32.*

Black : face and mouth whitish-yellow, the mouth only in the female ; antennæ red, the 2 basal joints black, yellow beneath in the male ; thorax red, with the neck, metathorax and a broad longitudinal dorsal line on the prothorax black, a hooked line before the wings, a streak beneath, and sometimes 1 on the breast yellow, and a red dot below the scutellum ; female with the colours usually reddish ; scutellum red, of the female occasionally edged with yellow ; abdomen smooth, with the 2nd to 7th segments faintly edged with whitish, beneath ochreous ; ovipositor black ; legs moderate, red ; 4 anterior in the male with the coxæ and trochanters yellow ; posterior tarsi black, their tibiæ rusty or whitish towards the base, black at the apex ; wings hyaline ; cellule wanting.

Scarce : found in June at Darenth wood.

†Sp. 33. *marginatorius*. *Niger, marginibus segmentorum 1 et 2 fasciâ latâ flavâ, segmentis reliquis subflavomarginatis ; facie maculis thoracis tibiisque flavis.* (Long. corp.  $3\frac{1}{2}$ —4 $\frac{1}{4}$  lin. ; Exp. Alar.  $5\frac{1}{2}$ —7 lin.)

*Ich. marginatorius*. Fabricius, *Syst. Ent.* 145.—*Ich. amictorius*. Steph. *Catal.* 351. No. 4473.

Black: mouth and face more or less yellow, the latter with a longitudinal black streak; antennæ shortish, fuscous, fulvous beneath, with the 2 basal joints yellow; thorax with the edge of the collar, and 2 dorsal spots, a streak below the wings, and the scutellum, and a lateral dot on the prothorax, as also the scutellum, yellow; abdomen sessile, rough, the 2 basal segments with a broad yellow margin, the 2 or 3 following slightly edged with pale yellowish or glaucous; legs rather moderate and slender; 4 anterior black beneath, and with the tibiæ and tarsi yellow, coxæ more or less black and yellow; posterior coxæ and femora black, trochanters yellow, black above, occasionally wholly of one or other of those colours; tibiæ yellow, with the apex black; tarsi more or less yellow, with the tips of the joints blackish; wings hyaline, cellule irregular, petiolated.

Larva feeds on that of *Lophyrus Pini* and *Lo. rufus*.

Very rare: taken near London and in the north of England.

Sp. 34. *anceps*. *Capite crassiusculo, niger, segmentorum marginibus albidis, ore pedibusque rufis, tibiis tarsisque posticis fuscis*. (Long. corp. 3 lin.; Exp. Alar. 5¼ lin.)

Tr. *anceps*. Steph. *Nomen. 2d edit. Gen.* 715. 34.

Black: head rather large and wide; palpi and mouth yellowish-red, tips of the mandibles black; labrum with 2 fulvous spots; antennæ rather short, thick, curved at the tip, and deep black; thorax with a faint streak below the scutellum, and the scutellum pale yellow; abdomen elongate, clavate, shining, silky, the margins of all but the 1st segment yellowish-white, the posterior angles of the 1st segment each with a whitish dot; legs pale red, coxæ and trochanters the same; hinder tibiæ pale fuscous, reddish towards the base, their tarsi fuscous; wings ample, hyaline; cellule irregular, petiolated.

Taken near Hertford, in July.

Sp. 35. *apiarius*. *Niger, marginibus segmentorum, maculis capitis, pedibus anterioribus subtus, tibiis posticis proparte, flavis*. (Long. corp. 4 lin.; Exp. Alar. 6½ lin.)

Tr. *apiarius*. Gravenhorst, ii. 196.—Steph. *Nomen. 2d edit. Gen.* 715. 35.

Black, punctured: mouth, cheeks, face, and inner orbits yellow; antennæ rather stout, brown-black, reddish beneath, with the 4 basal joints black; thorax with a streak beneath the scutellum, the neck below, and a perpendicular line on the sides of the prothorax, and also the tip of the scutellum, yellow; abdomen rough, with a minute yellow dot in the centre of the margin of the basal segment, the remaining ones very broadly edged with tawny-yellow; legs moderate, pitchy; 4 anterior yellow beneath; trochanters fuscous, tibiæ fuscescent outwardly, especially towards the apex; posterior tibiæ yellowish towards the base; wings ample, smoky-hyaline, the costal edge broadly fuscescent; cellule 3-angular, somewhat sessile.



Of this rare and beautiful insect I once took a fine specimen in Darenth wood in June.

§ III. *Scutellum* pale; *abdomen* either entirely red, or red and black.

Sp. 36. *rufulus*. PLATE XXXVI. f. 3.—*Rufus, scutello flavo, capite thoraceque nigris, flavo rufoque maculatis, pedibus posticis nigro maculatis, abdominis basi apiceque nigris*. (Long. corp. 7—8 lin.; Exp. Alar. 12—14 lin.)

Tr. *rufulus*. Steph. *Nomen*. 2d edit. Gen. 715. 36.—Tr. *rufus*? Gravenhorst, ii. 200.

Head red or black: mouth, face, and orbits yellow or red; antennæ as long as the body, curved at the tip, red, with 1 or 2 of the basal joints black; thorax black, with an irregular cloud or streak before the wings, a streak beneath them, and below the scutellum, and the upper margin of the collar red, metathorax with 2 more or less extensive tawny or red spots above; scutellum convex, yellow; abdomen elongate-fusiform, a little thickened and compressed at the tip; the basal segment black or red, or spotted with black, the margin always tawny or yellow, 2nd to 4th red, the former occasionally black at the base, the 5th to 7th black, sometimes reddish on the sides; legs rather long, red, coxæ yellowish, posterior pair black at the base, and with a dot of that colour near the tip above, their femora more or less black towards the base, and tibiæ black at the apex; wings yellowish-hyaline; cellule minute, petiolated.

Extremely variable: in some examples the thorax is very slightly varied with tawny or yellow, and in others the apex of the abdomen is more or less red.

Very rare: taken in June in the New Forest, and at Sheffield; also near Kimpton by the Rev. G. T. Rudd, to whom I am indebted for one sex.

Sp. 37. *conspicuus*. *Niger, ore facie pedibusque anterioribus stramineo-fulvis, orbitis oculorum externis, antennis subtus abdominisque medio rufis, scutello flavo, pedibus posticis fulvis, femoribus apiceque tibiæ nigris*. (Long. corp. 7½ lin.; Exp. Alar. 13 lin.)

Tr. *conspicuus*. Steph. *Nomen*. 2d edit. Gen. 715. 37.

Black: mouth and face pale yellow, the latter with a short vertical or black streak; antennæ black, red beneath; thorax with an irregular yellowish patch before the wings, and a streak of the same behind the scutellum, which is bright yellow; abdomen rather slender, the basal segment black, with its apex broadly tawny-red, the 2nd to 4th of this last colour, the 4th segment having a transverse blackish streak; remainder black; legs slender; 4 anterior pale straw-yellow, the middle coxæ, trochanters, and femora, black at the base; posterior coxæ, trochanters, and femora black, with the extreme tips of each tawny; tibiæ tawny-red, with the apex broadly black; tarsi fulvous; wings hyaline, with the rudiment of the divisional nervure on the disc considerably elongated; cellule small, 3-angular, petiolated.

Found near London.

Sp. 38. mesoleptoides. *Niger, ore facieque flavis, hoc maculâ nigrâ, scutello flavo, segmentis 2 et 3, antennis pedibusque rufis.* (Long. corp. 5 lin.; Exp. Alar. 8½ lin.)

Tr. mesoleptoides. *Steph. Nomen. 2d edit. Gen. 715. 38.*

Black: mouth and face yellow, the latter with a triangular black spot, branching towards the angles of the mouth, and the 3rd angle extending towards the antennæ, which are red, with the 2 or 3 basal joints black above; thorax with a minute yellow dot below the scutellum, which is also yellow; abdomen with the basal segment black, its peduncle rather slender, and the hinder angles red; the 2 following red, 4th chestnut, remainder pitchy, the last 4 having each a faint palish margin; legs moderate, 4 anterior pale red, coxæ and trochanters dusky at the base, posterior coxæ and trochanters black, reddish at the tip; femora, tibiæ, and tarsi red, the extreme base of the former a little spotted with black; wings dusky-hyaline, with a conspicuous black stigma; cellule 3-angular, petiolated.

Found at Hertford, in June.

†Sp. 39. pachysoma. *Niger, ore, genis, maculis 2-bus faciei, picturis thoracis scutelloque flavis, abdominis medio pedibusque anterioribus rufis, ano albo.* (Long. corp. 5 lin.; Exp. Alar. 8½ lin.)

Tr. pachysoma. *Steph. Nomen. 2d edit. Gen. 715. 39.*

Black, shining: head rather large; mouth, cheeks, and 2 large confluent spots on the face bright yellow; antennæ shorter than the body, dusky-black, reddish beneath at the apex; thorax robust, with the collar in front, a streak before the wings, and a dot at their base and below the scutellum, and the latter yellow; abdomen sessile, broad, the basal segment black, 3 following and base of 5th bright red, tip of the last and the 6th and 7th black, their margins broadly white; legs rather slender, 4 anterior pale red; coxæ and trochanters yellowish, 2nd pair blackish at the base; hinder legs black, the extreme tips of the trochanters and femora reddish; wings hyaline, stigma dark fuscous; cellule 3-angular, petiolated.

In Mr. Shuckard's collection; locality not known.

Sp. 40. albocinctus. *Niger, scutelli apice rufo, abdomine rufo, basi nigrâ, marginibus segmentorum albidis, pedibus anterioribus flavis, coxis et latere supero femorum nigris.* (Long. corp. 4—4½ lin.; Exp. Alar. 5—6 lin.)

Tr. albocinctus. *Gravenhorst, ii. 204.—Steph. Nomen. 2d edit. Gen. 715. 40.*

Black: mouth straw-colour, mandibles black at the tip and base; antennæ fuscous, tawny beneath, with the 4 basal joints totally black; scutellum with its apex red; abdomen with the 2 basal segments black, the margin of the 2nd red, the 3rd red or chestnut, with the edge whitish, the basal angles, or the entire base, black, 4th similar, occasionally with a black fascia before the margin, remainder red or chestnut, with the edges whitish, occasionally black at the base, the sides yellow on the margins; legs moderate, 4 anterior yellow, with the coxæ and upper edge of the femora, and sometimes the trochanters above, black; posterior black, tibiæ whitish in the middle, with



the apex reddish beneath, and the tip of the femora sometimes yellowish ; wings hyaline ; cellule somewhat irregular and petiolated.

Rare : taken at Darenth wood in July.

Sp. 41. tricolor. *Niger, abdomine rufo, marginibus segmentorum flavis, segmento 1-mo toto nigro, pedibus facie et pectore flavis.* (Long. corp. 4 lin. ; Exp. Alar. 7 lin.)

Tr. tricolor. *Gravenhorst, ii. 207.—Steph. Nomen. 2d edit. Gen. 715. 41.*

Black : head testaceous-yellow, with the forehead and crown black ; antennæ with the basal joint black, yellow beneath, the 3 following black, remainder reddish-yellow, somewhat of a rusty-brown above ; thorax with the neck, breast, a spot beneath the wings, one below the scutellum, and the scutellum, yellow ; abdomen with the basal joints black, remainder tawny-red, with the margins yellowish ; legs moderate, 4 anterior yellow, with the femora tawny-red above ; posterior with the coxæ yellow, black above, trochanters yellow, femora testaceous-red, with the extreme base black ; tibiæ dull testaceous, with the base black ; tarsi fuscous ; wings somewhat hyaline ; cellule 3-angular, irregular and petiolated.

Rare : taken at Darenth wood and in the New Forest, in June.

Sp. 42. segmentarius. *Niger, abdominis medio rufo, pedibus anterioribus rufis, coxis et trochanteribus nigro flavoque maculatis, tibiis posticis basi ochreo albidis, facie et antennarum basi subtus flavis.* (Long. corp. 4 lin. ; Exp. Alar. 7 lin.)

Ich. segmentarius. *Fabricius, Mant. 262.—Steph. Nomen. 2d edit. Gen. 715. 42.*

Black : mouth and face yellow, the latter in the female with a short vertical black streak ; mandibles black at the tip ; antennæ red, dusky above, 2 basal joints yellow beneath ; scutellum at the tip, or in the female entirely yellow ; abdomen with the basal segment black, red at the apex in the female, 2nd to 4th red, remainder black, but in the female the 5th is sometimes totally red, or red with a black basal patch, and the 6th is occasionally red, with the disc dusky ; legs moderate, 4 anterior in the male tawny, with the coxæ and trochanters yellow, the former with a lateral black dot ; of the female red, the coxæ black, with the tip yellow ; the trochanters yellow, with usually a black dot above, posterior black, trochanters yellow or rusty at the apex, the tibiæ more or less whitish towards the base ; wings stained hyaline ; cellule irregular, the outer nervure sometimes nearly obliterated.

Taken, but rarely, near London, in June.

Sp. '43. luteifrons. *Niger, abdominis medio rufo, pedibus fulvis, tibiis pallidioribus, posticis apice nigro, facie testaceâ.* (Long. corp. 3 lin. ; Exp. Alar. 5½ lin.)

Tr. luteifrons. *Gravenhorst, ii. 215.—Steph. Nomen. 2d edit. Gen. 715. 43.*

Black : face and mouth rusty-yellow, tips of the mandibles black ; antennæ shortish, the apex curved, fuscous, rusty beneath, the basal joint dull whitish ; scutellum whitish ; abdomen as broad as the thorax, ovate, some-

what pedunculated, basal segment black, 2nd black, with the tip red, 3rd red, 4th black, with an obscure reddish fascia, remainder black, with the extreme margins palish; ovipositor black; legs tawny-red, trochanters straw-coloured; hinder tarsi black, their tibiæ whitish, with the apex black; wings hyaline; cellule wanting.

Not uncommon: taken at Darenth wood in June.

§ IV. *Scutellum* black; *abdomen* either totally red, or red and black, or yellow and black.

Sp. 44. *varitarsus*. *Niger, abdominis medio pedibusque anterioribus rufis, coxis et trochanteribus nigris, pedibus posticis nigris, femoribus rufis, tibiæ medio albo.* (Long. corp.  $2\frac{3}{4}$ —4 lin.; Exp. Alar. 4— $6\frac{1}{2}$  lin.)

Tr. *varitarsus*. *Gravenhorst*, ii. 222.—*Curtis*, v. ix. pl. 399.—*Steph. Nomen. 2d edit. Gen.* 715. 44.

Black: palpi and mandibles pale or yellowish, the tips of the last black, and the labrum generally ferruginous; antennæ shorter than the body, curved at the tip, sometimes rusty beneath from the 4th joint; abdomen with the basal segment black, the extreme tip sometimes chestnut, 2nd and 3rd red or chestnut, 4th either red with the apex black, or totally red or black, remainder generally black; legs moderate, 4 anterior with the coxæ, and the trochanters generally black, the latter rarely yellow, or reddish beneath; femora tawny; tibiæ yellow, with the apex fulvous, tarsi yellow, with the tips of the joints tawny; posterior legs black, with the tip of the trochanters red, femora also red or chestnut, with the knees and sometimes the base black; tibiæ with a ring towards the base, and the apical spines, and also the extreme base of the joints of the tarsi whitish, or ochreous; wings hyaline; cellule triangular, somewhat petiolated, the internal cubital areolet mostly with the commencement of the divisional nervure.

Not very uncommon: found near London in June and July, and in the New Forest and Salop.

Sp. 45. *albovinctus*. *Niger, abdominis medio pedibusque rufis, tibiis posticis nigris annulo albo.* (Long. corp.  $2\frac{1}{2}$  lin.; Exp. Alar.  $4\frac{1}{2}$  lin.)

Tr. *albovinctus*. *Gravenhorst*, ii. 224.—*Steph. Nomen. 2d edit. Gen.* 715. 45.

Black: palpi and mandibles dull white, the tips of the latter black, clypeus chestnut; antennæ nearly as long as the body, the tip a little curved; abdomen rather petiolated, shining, oblong-ovate, the basal segment channelled, black, 2nd and 3rd red, the tip of the latter and the remaining segments black; legs moderate, red; trochanters pale; posterior tarsi, the tips of the femora, and the tibiæ black, the latter with a white ring towards the base, and the coxæ blackish above and at the base; wings hyaline, cellule 3-angular, petiolated.

Found, but rarely, near London, in June.

Sp. 46. *erythrocerus*. *Niger, abdominis medio rufo, pedibus anterioribus rufis,*



*coxis et femorum basi nigris, tibiis posticis rufis apice nigro, antennis subtilis rufis.* (Long. corp. 3—4½ lin.; Exp. Alar. 5—7 lin.)

Tr. erythrocerus. *Gravenhorst*, ii. 230.—*Steph. Nomen*. 2d edit. Gen. 715. 46.

Black: mouth and face yellow, this last generally with a black dot or longitudinal black streak; antennæ nearly as long as the body, curved at the tip, 4 basal joints black, the 1st sometimes with a yellow dot below, the following beneath red, and the terminal ones totally red; abdomen somewhat sessile, the basal segment black, with the edge red in the female, the lateral tubercles placed beyond the middle, the 2nd to the 4th red, the latter sometimes fuscous, with the base reddish, the remainder black; legs slender, 4 anterior of the male tawny-red, coxæ black, sometimes with a yellow dot beneath, trochanters yellow, or black, the base of the femora black; of the female the coxæ and trochanters are black, the anterior femora red, with the base black, the middle pair black, with the tip red, tibiæ and tarsi red; posterior legs black in both sexes, with the base of the tibiæ red; wings nearly hyaline; cellule minute, or wanting.

Antennæ sometimes totally black.

Taken near London and in Salop, in June.

Sp. 47. mesoxanthus. *Niger, segmento 1-mo tumido, abdominis medio, facie, tibiisque flavis, harum posticis apice nigro.* (Long. corp. 6—6½ lin.; Exp. Alar. 10—12 lin.)

Tr. mesoxanthus. *Gravenhorst*, ii. 233.—*Steph. Nomen*. 2d edit. Gen. 715. 47.

Black: palpi pale straw-colour: mandibles in the middle and face orange; antennæ porrect, as long as the body, the 1st 20 joints yellow beneath, the colour gradually fading towards the apex; thorax with a slight griseous pile; metathorax with 2 acute tubercles; abdomen petiolated, the 3 basal segments of equal width, the remainder gradually narrower, the 1st black, thickly punctured with 2 elevated longitudinal lines, the anterior portion convex and rather swollen, 2nd and 3rd yellow or reddish, remainder black, the 4th with a tawny and semicircular spot at the base; legs slender, 4 anterior with the coxæ and trochanters black, the last yellow beneath, femora black, with the apex and entire inner side of the anterior pair yellow, tibiæ and tarsi also yellow, the middle pair of the latter fuscous above; posterior legs black, the tibiæ yellow at the base, and the tarsi yellowish beneath; wings smoky-hyaline; cellule 3-angular, irregular, and somewhat sessile.

Rare: taken in the New Forest, about the end of June.

Sp. 48. nigricollis. *Niger, segmentis 1-4 pedibusque flavis, horum posticis coxis femoribus et tibiæ apice nigris, ore, maculâ faciali, et antennarum articulis 1 et 2 flavis.* (Long. corp. 4½—5 lin.; Exp. Alar. 7—9 lin.)

Tr. nigricollis. *Gravenhorst*, ii. 234.—*Steph. Nomen*. 2d edit. Gen. 715. 48.

Black: face ashy; mouth, clypeus, and an adjoining facial spot yellow; tip of the mandibles brown; antennæ slender, porrect, the 2 basal joints black,

yellow beneath, 3rd entirely black, remainder fuscous, beneath pale rusty ; abdomen rather narrow, yellow, the basal segment slightly grooved, 5th to 7th black, the base of the former chestnut ; legs rather slender, yellow, 4 anterior with a black spot on the coxæ without, posterior coxæ, femora, and tibiæ at the apex, black ; wings a little stained ; cellule wanting.

Scarce : found in the north of England and in Scotland, in July.

Sp. 49. *elegantulus*. *Niger, femoribus crassis, fronte muticâ, abdominis medio tibiis nec non femorum anticorum latere interno, flavis.* (Long. corp. 5—6½ lin. ; Exp. Alar. 9—11 lin.)

Ich. *elegantulus*. *Schrank F. Aust. p. 361.—Tr. elegantulus. Steph. Nomen. 2d edit. Gen. 715. 49.*

Black : forehead unarmed ; antennæ short, porrect, reddish, or red, beneath ; basal joint black, yellow below ; thorax sometimes with 2 minute yellow dots below the scutellum, and the extreme apex of the latter occasionally the same ; body subpetiolated and clavate, the basal joint black, with its tip yellow, 2 following yellow, the 2nd sometimes with a round black spot in the middle of the base, the 4th either totally black, or with a yellow border at the base, or the 2 basal angles of that colour, the remainder black ; legs short and stout, especially the femora, coxæ and trochanters black, sometimes yellow beneath ; femora black, 4 anterior more or less yellow at the tip, tibiæ yellow, posterior with the extreme apex black ; 4 anterior tarsi yellow, posterior fuscous ; wings smoky-hyaline ; cellule wanting.

Apparently very rare, and variable ; found in June near London.

Sp. 50. *elongator*. *Fronte cornutâ, abdominis medio flavo, aut rufo, tibiis nec non latere interno femorum anticorum flavis, tibiis posticis apice nigro, antennis subtus fulvis.* (Long. corp. 2¼—5¼ lin. ; Exp. Alar. 4—9¼ lin.)

Tr. *elongator*. *Fabricius.—Steph. Catal. 351. No. 4468.*

Black : mouth generally yellowish or reddish, furnished with a short, erect, rather acute or obtuse horn ; antennæ shorter than the body, basal joint black, rarely rusty beneath, the remainder tawny or rusty, sometimes fuscous above ; abdomen somewhat pedunculated, subclavate or fusiform, basal segment black, its margin more or less broadly red or tawny, 2nd to 4th, sometimes the base of the 5th, but rarely the whole thereof, yellow or tawny ; remainder black ; legs moderate, a little thickened, coxæ and trochanters black, anterior femora sometimes entirely yellow or testaceous, but generally black externally towards the base, 2nd pair black, with the apex as in the anterior ; posterior entirely black ; tibiæ yellow, or testaceous, the apex and extreme base of the hinder ones black ; tarsi reddish ; claws brown ; wings hyaline, sometimes yellowish ; cellule irregular, or somewhat 3-angular, slightly petiolated.

Extremely abundant throughout the metropolitan district in June and July : also found in Devonshire, the New Forest, Salop, Scotland, &c.



Sp. 51. *flavipes*. *Niger, fronte muticá, abdominis medio femoribusque anterioribus fulvis, tibiis flavis, posticis apice nigro.* (Long. corp.  $5\frac{1}{4}$  lin.; Exp. Alar. 9 lin.)

Tr. *flavipes*. *Gravenhorst, ii. 241.—Steph. Nomen. 2d edit. Gen. 715. 51.*

Black: forehead unarmed; clypeus and a spot on the mandibles ferruginous; abdomen with the 2nd and 3rd segments, and the basal angles of the 4th, tawny-red, or yellow; legs moderate, 4 anterior pale red, tibiæ and tarsi yellow, coxæ and trochanters black, posterior black, tibiæ yellowish, black at the tip; wings smoky-hyaline; cellule irregular, somewhat petiolated.

Not common: I have taken it in the neighbourhood of the metropolis.

Sp. 52. *brachyacanthus*. *Niger, fronte cornutá, abdomine pedibusque fulvis.* (Long. corp.  $2\frac{3}{4}$  lin.; Exp. Alar. 4 lin.)

Ich. *brachyacanthus*. *Gmelin, p. 2705.—Tr. brachyacanthus. Steph. Nomen. 2d edit. Gen. 715. 52.*

Black: palpi and mandibles reddish, the tip of the latter black; labrum rusty-brown; forehead with a short obtuse porrect tubercle; antennæ rusty, or brownish beneath, the basal joint totally black; abdomen oblong-linear, or somewhat ovate, fulvous, the basal segment sometimes with the base or a dorsal spot black, or black with the tip fulvous; legs moderate, fulvous, with the apex of the hinder femora sometimes fuscous; wings rather smoky; cellule irregular, somewhat sessile.

Not common: taken in June at Darenth wood.

Sp. 53. *scotopterus*. *Fronte muticá, niger, alis fusco hyalinis, abdomine pedibusque fulvis basi nigrá.* (Long. corp. 3 lin.; Exp. Alar. 5 lin.)

Tr. *scotopterus*. *Gravenhorst, ii. 244.—Steph. Nomen. 2d edit. Gen. 715. 53.*

Black and silky: forehead unarmed; mouth straw-coloured: mandibles black at the tip; antennæ rusty beneath, fuscous or black above; abdomen fulvous, with the basal segment black, or fuscous, a little dilated towards the apex, which is sometimes tawny; legs fulvous, with the coxæ black, and the hinder tarsi dusky; wings brownish- or dusky-hyaline; cellule irregular, somewhat sessile.

Rare: obtained from Mr. Haworth's collection.

Sp. 54. *cephalotes*. *Niger, capite crassiusculo, abdomine rufo basi nigrá, pedibus rufis, coxis et trochanteribus anterioribus flavis, posticis nigris, facie et genis flavis.* (Long. corp.  $3-3\frac{1}{2}$  lin.; Exp. Alar. 5—6 lin.)

Tr. *cephalotes*. *Gravenhorst, ii. 246.—Steph. Nomen. 2d edit. Gen. 715. 54.*

Black: head rather thick and globose, crown rectangular; mouth, face, and cheeks yellow, tip of the mandibles black; antennæ porrect, fuscous, rusty beneath; abdomen glossy, more or less ovate, basal segment black, sometimes with a red marginal dot or band, remainder red, the 2nd occasionally with 2 somewhat confluent fuscous spots at the base, the 3 terminal ones, at times, with a yellow edge, and the sides of the 6th and 7th sometimes

black ; legs moderate, red, 4 posterior coxæ yellow, posterior black ; trochanters yellow, posterior sometimes black above ; hinder femora occasionally with the base and apex black ; wings hyaline ; cellule irregular, 3-angular, somewhat petiolated.

Not uncommon : taken in June, in the vicinity of London.

Sp. 55. subfasciatus. *Niger, abdomine rufo basi et fasciâ abbreviatâ segmenti 2-di nigris, pedibus rufis coxis anterioribus trochanteribus, ore, facieque flavis, tibiis posticis apice fusco.* (Long. corp.  $2\frac{1}{2}$  lin. ; Exp. Alar.  $4\frac{1}{2}$  lin.)

Tr. subfasciatus. *Steph. Nomen. 2d edit. Gen. 715. 55.*

Black : mouth and face yellow, the latter with 2 impressed black dots ; antennæ porrect, about the length of the body ; abdomen somewhat ovate, red, the basal segment black, with the margins red, 2nd with the base black in the middle, and the 5th and 6th somewhat dusky on the back ; legs rather short ; 4 anterior red, with the coxæ and trochanters yellow ; posterior coxæ black, trochanters yellow, femora and base of the tibiæ red, apex of the latter black, tarsi dusky ; wings hyaline ; cellule irregular, somewhat sessile.

Apparently rare : I have 2 specimens found in June, near London.

Sp. 56. sphærocephalus. *Niger, segmentis 1-4 pedibusque fulvis, coxis anterioribus et trochanteribus flavis, geniculis posticis nigris, facie flavâ, antennis subtus fulvis.* (Long. corp.  $3\frac{1}{2}$  lin. ; Exp. Alar.  $5\frac{1}{2}$  lin.)

Tr. sphærocephalus. *Gravenhorst, ii. 247.—Steph. Nomen. 2d edit. Gen. 715. 56.*

Black : head subglobose ; face, mouth, and cheeks yellow ; antennæ porrect, fuscous, tawny beneath, 2 basal joints black, yellow below ; abdomen somewhat sessile, oblong-ovate, fulvous, the 3 terminal segments black, the extreme margin of the 7th yellow ; legs moderate, stoutish, fulvous, 4 anterior coxæ and trochanters yellow, posterior trochanters also yellow, and the tip of the femora black ; wings hyaline ; cellule irregular, 3-angular, somewhat petiolated.

Scarce : found near London in June, at Darenth wood.

Sp. 57. pastoralis. *†Niger, abdominis medio rufo, pedibus rufis, posticorum tarsis et apice femorum tibiærumque nigris, ore flavo.* (Long. corp.  $2\frac{1}{2}$ —3 lin. ; Exp. Alar. 4— $5\frac{1}{2}$  lin.)

Tr. pastoralis. *Gravenhorst, ii. 248.—Steph. Nomen. 2d edit. Gen. 715. 57.*

Black : mouth yellow ; clypeus occasionally straw-colour ; antennæ rusty beneath, and sometimes a little so above towards the tip ; abdomen somewhat sessile, basal segment smooth, black, 2nd to 4th red, the 2nd with a transverse impressed line, remainder black, with the extreme margins whitish ; legs red, the apex of the hinder femora and of their tibiæ with the coxæ and tarsi sometimes black ; wings hyaline ; cellule irregular, somewhat petiolated.

Not common : taken in June near London, and in Shropshire.



Sp. 58. *quadrisculptus*. *Niger, segmentis 1-4 lineá transversali impressis, rufopictis, pedibus rufis, posticorum coxis tarsis et tiliarum apice fuscis.* (Long. corp.  $2\frac{1}{4}$  lin.; Exp. Alar.  $4\frac{1}{2}$ —5 lin.)

Tr. *quadrisculptus*. *Gravenhorst, ii. 250.—Steph. Nomen. 2d edit. Gen. 715. 58.*

Black: head small; antennæ rarely more than half the length of the body; thorax with an obscure testaceous streak below the wings; abdomen as wide as the thorax, oblong, sessile, basal segment with a longitudinal groove, and a transverse impressed line, black, the margin red, 2nd to 4th each with a transverse impressed line, red, the 2nd at the base and margin, the 3rd and 4th on the margin, dusky-black, remainder totally black; legs rather slender, testaceous-red, the middle coxæ fuscous beneath, hinder coxæ and tarsi fuscous; tibiæ reddish-white, with the apex, and a dot at the base fuscous; wings smoky-hyaline; cellule wanting.

Found, not uncommonly, in the vicinity of London in June.

Sp. 59. *bisculptus*. *Niger, segmentis 2 et 3 lineá transversali impressis, rufis, punctis duobus nigris, pedibus rufis, geniculis posticis coxisque nigris, trochanteribus flavis, ore et maculis faciei flavis.* (Long. corp.  $3\frac{1}{4}$ — $3\frac{3}{4}$  lin.; Exp. Alar. 5—6 lin.)

Tr. *bisculptus*. *Gravenhorst, ii. 151.—Steph. Nomen. 2d edit. Gen. 715. 59.*

Black, with a griseous pile: head somewhat globose; mouth and 2 dentate spots on the face yellow; antennæ porrect, shorter than the body, red, dull above, the 2 basal joints black, yellow beneath; abdomen sessile, as broad as the thorax, fusiform-cylindric, basal segment black, with 2 elevated lines, 2nd and 3rd red, each with a transverse impressed line, and 2 black dorsal spots, remainder black, the 4th with the basal angles red; legs moderate, red, coxæ black, trochanters yellow, the hinder with the knees black, the tarsi fuscous, red at the base; wings smoky-hyaline; cellule small, irregular, petiolated.

Also taken near London, and not very uncommonly, in June.

Sp. 60. *trisculptus*. *Niger, segmentis 1-3 lineá transversali impressis, 2-4 et apice 1-mi rufis, pedibus anterioribus tibiisque posticis rufo-fulvis, coxis anterioribus et trochanteribus, ore maculisque faciei flavis.* (Long. corp.  $3\frac{1}{2}$  lin.; Exp. Alar. 5—6 lin.)

Tr. *trisculptus*. *Steph. Nomen. 2d edit. Gen. 715. 60.*

Black: mouth and 2 irregularly-triangular spots on the face yellow; tips of the mandibles black; antennæ porrect, shorter than the body, fuscous, the 2 basal joints black, rusty beneath, the remainder red; thorax with a yellow dot at the base of the wings; abdomen sessile, as wide as the thorax, the 3 basal segments each with an interrupted transverse impressed line, the basal one rough, and with 2 impressed lines, black, with the apex broadly red, 2nd and 3rd entirely red, 4th red with the edge black, remainder black; legs moderate, 4 anterior tawny-red, with the coxæ and trochanters yellow; posterior with the coxæ black, trochanters yellow, femora black, tibiæ red, a

little dusky at the extreme tip ; tarsi reddish ; wings smoky-hyaline ; cellule small, 3-angular, petiolated.

Taken near London, not common, in June.

Sp. 61. obscurus. *Niger, abdominis medio castaneo-rufo, pedibus anterioribus stramineis femoribus basi nigrâ, trochanterum apice et tibiæ basi rufo-flavis, ore flavo-maculato.* (Long. corp. 3 lin. ; Exp. Alar.  $5\frac{1}{2}$  lin.)

Tr. obscurus. *Steph. Nomen. 2d edit. Gen. 715. 61.*

Black : mouth and middle of the mandibles yellow ; antennæ short, porrect, blackish above, beneath entirely reddish-yellow ; abdomen silky, broader than the thorax, sessile, basal segment black, 2nd and 3rd each with a faintly impressed line, red, the base of the former with a large black patch, 4th and 5th red, the last pitchy towards the apex, the remainder pitchy-black ; legs short, 4 anterior pale yellow straw-colour, with the coxæ and base of the femora black ; trochanters all pale yellow at the tip, posterior coxæ and femora black ; tibiæ reddish, with the apex black ; tarsi fuscous ; wings smoky-hyaline ; cellule 3-angular, petiolated.

Also found in June near London : rare.

Sp. 62. bidentatus. *Niger, segmentis 2 et 3 rufis, pedibus anterioribus tibiærumque posticarum basi pallide rufo-fulvis, ore ferrugineo.* (Long. corp.  $3\frac{1}{4}$  lin. ; Exp. Alar.  $5\frac{1}{4}$  lin.)

Tr. bidentatus. *Steph. Nomen. 2d edit. Gen. 715. 62.*

Black : mouth rusty ; antennæ scarcely so long as the body, a little rusty towards the base ; abdomen as wide as the thorax, somewhat oblong-ovate, and sessile, the basal segment black, channelled, quadrate, with the lateral tubercles very prominent, and placed beyond the middle, the extreme margin red, 2nd and 3rd entirely red, 4th with the basal angles and extreme edge red, the back and the remaining segments black ; legs moderate, 4 anterior pale tawny-red, with the coxæ and trochanters black, posterior black, with the base of the tibiæ red ; wings smoky-hyaline ; cellule 3-angular, subsessile.

Scarce : found in July near London.

Sp. 63. flavomaculatus. *Niger, segmentis 3 (et 4) rufis, pedibus fulvis, coxis anterioribus trochanteribusque flavis, coxis posticis nigris, ore et maculis faciei flavis.* (Long. corp. 3 lin. ; Exp. Alar.  $5\frac{1}{2}$  lin.)

Tr. flavomaculatus. *Gravenhorst, ii. 252.—Steph. Nomen. 2d edit. Gen. 715. 63.*

Black : mouth yellow, mandibles black at the tip ; face yellow in the female, with a short longitudinal black line ; male with 2 yellow dots ; antennæ black, beneath ferruginous, the basal joints either black, or spotted with yellow ; in the female red, paler beneath, the basal joints black ; abdomen somewhat sessile, basal segment black, 2nd black with the margin red, 3rd red, 4th red with the apex black, or totally black, remainder black, in the female the terminal one testaceous ; legs tawny in the male, red in the female, 4 anterior coxæ and trochanters pale yellow, posterior coxæ black, the



tip occasionally red, and sometimes yellow beneath in the male, trochanters in this sex pale yellow, at times with a tawny spot; wings somewhat hyaline; cellule irregular, slightly petiolated.

Found at Darenth wood in July.

Sp. 64. *xanthostomus*. *Niger, abdominis medio rufo, pedibus rufis, coxis nigris, trochanteribus flavis basi nigrâ, ore et puncto faciali flavis.* (Long. corp. 3—3½ lin.; Exp. Alar. 5—6 lin.)

Tr. *xanthostomus*. *Gravenhorst, ii. 257.—Steph. Nomen. 2d edit. Gen. 715. 64.*

Black: mouth and a bifid spot on the face, the points directed towards the mouth, yellow; antennæ about the length of the body, curved, the 4 basal joints black, the remainder rusty beneath, and the apical ones totally red; abdomen slightly pedunculated, oblong, a little thickened at the apex, the basal segment channelled and black, 2nd to 4th or 5th red, the former with a fuscous cloud, remainder black, yellowish beneath; legs moderate, slender, red, tibiæ yellowish below, coxæ black; trochanters yellow, with the base black, hinder tarsi fuscous; wings somewhat hyaline; cellule irregular, petiolated.

Not common: found near London, in June.

Sp. 65. *mitigosus*. *Niger, segmentis 2-4-6 pedibusque rufis, coxis posticis basi nigris, facie flavâ.* (Long. corp. 2—3½ lin.; Exp. Alar. 4—6 lin.)

Tr. *mitigosus*. *Gravenhorst, ii. 258.—Steph. Nomen. 2d edit. Gen. 715. 65.*

Black: mouth and face yellow, the latter with a dot or streak, and the tips of the mandibles black; antennæ shorter than the body, slightly curved at the apex, rusty-brown, paler beneath, 2 basal joints black, rusty or yellow below; abdomen somewhat sessile, as broad as the thorax, the basal segment deeply grooved, entirely black, or with the tip red, 2nd to 4th nearly equal, red, 5th and 6th red, with the margin yellowish or red; legs dull red, trochanters and coxæ paler, or dull yellow, the hinder coxæ more or less black at the base and above; wings smoky-hyaline; cellule irregularly 3-angular, somewhat petiolated.

Not very uncommon: found in June near London, and in Salop.

Sp. 66. *notatus*. *Niger, segmentis 2-3 rufis, nigro-notatis, pedibus rufis, coxis et trochanteribus nigris, ore flavo aut ferrugineo.* (Long. corp. 2½—3 lin.; Exp. Alar. 4—5½ lin.)

Tr. *notatus*. *Gravenhorst, ii. 261.—Steph. Nomen. 2d edit. Gen. 715. 66.*

Black: mouth and clypeus on the margin, or entirely, yellow or reddish, the base and apex of the mandibles black; antennæ a little shorter than the body, recurved, 2 basal joints black, sometimes rusty beneath, remainder black or fuscous, more or less rusty beneath, especially towards the apex; abdomen somewhat petiolated, oblong-ovate, basal segment black, the margin generally red, 2nd and 3rd red, with 2 black dots, sometimes united into a fascia, or obscure, or totally wanting, and the margins and sides of the 3rd frequently black; 4th occasionally red, rarely black, generally with

the back red or chestnut, the margins always pale or yellowish, 5th to 7th black, with the extreme edge pale ; legs moderate, red ; coxæ and trochanters black, 4 anterior sometimes fulvous, and generally rusty beneath, the tip of the posterior tibiæ and the hinder tarsi sometimes dusky ; wings hyaline ; cellule indistinct, or with a mere rudiment of the outer nervure.

Also found in the vicinity of London in July, not uncommonly.

Sp. 67. *lateralis*. *Niger, segmentis 2-5 rufis, lateribus nigris, facie flavâ, pedibus rufis, coxis anterioribus trochanteribusque flavis, coxis posticis nigris.* (Long. corp. 3—3½ lin.; Exp. Alar. 5—6½ lin.)

Tr. *lateralis*. *Gravenhorst, i. 690.—Steph. Nomen. 2d edit. Gen. 715. 67.*

Black : mouth and face yellow ; antennæ as long as the body, porrect, incurved at the tip ; abdomen ovate-fusiform, as wide as the thorax, shining, basal segment thickly punctured, opaque, black, with 2 elevated longitudinal lines, the margin red ; 2nd and 3rd quadrate, red, with a black spot on each side, 4th and 5th transverse, red, the sides entirely black, 6th black, with an obscure reddish spot on the back, 7th totally black ; legs moderate, tawny-red, 4 anterior with the trochanters and coxæ light yellow, posterior coxæ black, their trochanters yellow ; wings slightly hyaline, iridescent ; cellule wanting ; the outer nervure of the internal cubital areolet angulated.

Taken in the neighbourhood of London, and in Salop, in June.

Sp. 68. *lineola*. *Niger, segmentis 2, et 3 rufis, lateribus nigris, 4-ti dorso rufo ore facie genisque flavis, pedibus rufis, coxis et trochanteribus flavis.* (Long. corp. 3½ lin.; Exp. Alar. 4½ lin.)

Tr. *lineola*. *Steph. Nomen. 2d edit. Gen. 715. 68.*

Black : mouth, face, and cheeks yellow, tips of the mandibles black ; antennæ as long as the body, black, rusty beneath, with the 2 basal joints yellow ; thorax with a yellow line before the wings ; abdomen narrow, elongate, subclavate, basal segment black, 2nd and 3rd red, with a black spot on the sides of each, 4th black, with the back red at the base, remainder black ; legs slender, pale red, all the coxæ and trochanters yellow, the base of the hinder coxæ a little blackish ; wings hyaline ; cellule 3-angular, petiolated.

Not very common in the vicinity of London : found in June and July.

Sp. 69. *basalis*. *Niger, abdomine rufo, basi apiceque nigris, pedibus anterioribus rufis, coxis et trochanteribus flavis, posticis nigris, basi tibiæ rufo, trochanteribus oreque flavis.* (Long. corp. 2½ lin.; Exp. Alar. 4 lin.)

Tr. *basalis*. *Steph. Nomen. 2d edit. Gen. 715. 69.*

Black : mouth and labrum yellow, tips of the mandibles black ; antennæ slender, a little curved at the tip, rusty towards the apex beneath ; abdomen short, ovate, the basal segment and the basal half of the 2nd black, the apex of the last and the 3 following segments entirely bright shining red, the 6th and 7th black ; legs slender, 4 anterior pale red, with the coxæ and trochanters yellow ; posterior coxæ black, trochanters yellow, femora slender



and black, tibiæ reddish, with the apex blackish; tarsi also blackish; wings somewhat hyaline; cellule 3-angular, slightly petiolated.

Also found near London in June.

Sp. 70. *axillaris*. *Niger, segmento 3 et 4 dorso badis, pedibus rufis, facie flavá lineá abbreviatá nigrá, coxis et trochanteribus flavis, posticis nigro punctatis, thorace flavo maculato.* (Long. corp.  $3\frac{1}{2}$  lin.; Exp. Alar.  $5\frac{1}{4}$  lin.)

Tr. *axillaris*. *Steph. Nomen. 2d edit. Gen. 715. 70.*

Black: palpi, mouth, and face yellow, the last with a short black streak between the antennæ, which are rather longer than the body, a little bent towards the tip, slender, rusty beneath, with the 2 basal joints yellow; thorax with a yellow dot at the base of the wings, a line beneath and an elongate one hooked anteriorly on the sides of the collar, and the anterior margin of the latter occasionally the same; abdomen with the basal segment rugose, black, its apical angles dull chestnut, 2nd black, with the edge chestnut, 3rd chestnut-red, with a black patch on each side, 4th black, with a chestnut-red spot in the middle, remainder black, with the extreme edges whitish; legs pale tawny-red, 4 anterior coxæ and trochanters yellow; hinder coxæ black at the base and yellow at the apex, their trochanters yellow, with a black dot above; wings hyaline; cellule wanting.

Taken in June near London.

Sp. 71. *nasutus*. *Niger, segmentis 2-5 pedibusque rufis, coxis nigris, tarsis posticis et apice tibiæ posticarum nigris; facie ore et trochanteribus maris flavis, fœminæ nigris.* (Long. corp.  $3-3\frac{1}{2}$  lin.; Exp. Alar. 5—6 lin.)

Tr. *nasatus*. *Gravenhorst, ii. 264.—Steph. Nomen. 2d edit. Gen. 715. 71.*

Black: male with the mouth and face yellow, the latter with a short black streak, and the tip of the mandibles also black; antennæ nearly as long as the body, a little curved at the apex, black, or fuscous, with the basal joint black; abdomen with the basal segment channelled, somewhat sessile, black, 2nd to 5th of equal width, red or chestnut, 5th rarely fuscous, 6th and 7th black; legs rather slender, 4 anterior red or tawny, the trochanters of the male yellow, coxæ black, with the tip yellow; female with the coxæ and trochanters totally black, posterior black, femora red, tibiæ at the base reddish-brown, or red, with the tip black; wings rather stained; cellule wanting.

Found, but very rarely, near London, in July.

Sp. 72. *melanocerus*. *Niger, segmentis 2-4 et pedibus rufis, coxis nigris, cellulâ parvâ petiolatâ.* (Long. corp.  $3-3\frac{1}{2}$  lin.; Exp. Alar.  $5-5\frac{1}{2}$  lin.)

Tr. *melanocerus*. *Gravenhorst, ii. 265.—Steph. Nomen. 2d edit. Gen. 715. 72.*

Black: palpi and mandibles red, apex and base of the last black; labrum sometimes red; antennæ slender, nearly as long as the body; abdomen oblong-ovate, slightly pedunculated, basal segment black, 2nd to 4th red, the edges of the latter occasionally black, the 5th to 7th black; legs

moderate, red, coxæ and sometimes the base of the trochanters black; wings hyaline; cellule minute, irregular, petiolated.

Not common: found in June near London, and in Salop.

Sp. 73. *procurator*. *Niger, segmentis 2 et 3 pedibusque rufis; fœmina antennis crassioribus.* (Long. corp.  $2\frac{1}{2}$ — $3\frac{1}{4}$  lin.; Exp. Alar.  $4\frac{1}{2}$ — $5\frac{1}{4}$  lin.)

Tr. *procurator*. *Gravenhorst, ii. 266.—Steph. Nomen. 2d edit. Gen. 715. 73.*

Black: palpi and mandibles ferruginous, the apex of the latter black; antennæ shorter than the body, the tip curved; in the female a little thickened in the middle; abdomen somewhat sessile, oblong-ovate, the basal segment slightly channelled and roughish, rather opaque, black, with the extreme margin red, 2nd red, with a black spot on the back, 3rd red, 4th black, with the extreme base red, remainder black; legs moderate, red, coxæ and sometimes the trochanters black, posterior tarsi dusky; the tips of the femora and of the tibiæ sometimes blackish in the male; wings rather smoky-hyaline; cellule irregular, somewhat petiolated.

Scarce: found in June near London.

Sp. 74. *brunnicans*. *Niger, abdomine rufo, basi nigrâ, pedibus rufis, coxis et trochanteribus nigris.* (Long. corp.  $2\frac{1}{3}$ —3 lin.; Exp. Alar. 4—5 lin.)

Tr. *brunnicans*. *Gravenhorst, ii. 270.—Steph. Nomen. 2d edit. Gen. 715. 74.*

Black: labrum and sometimes the middle of the mandibles slightly ferruginous; antennæ half the length of the body, the apex occasionally a little curved and rusty; abdomen somewhat sessile, narrower than the thorax, oblong, or broader and rather thickened at the apex in the females; basal segment black, with its margin chestnut, 2nd to 7th red or chestnut, or a little tawny; ovipositor black; legs rather short, red, coxæ and trochanters black, tibiæ sometimes with a narrow yellowish ring at the base; wings hyaline; cellule 3-angular, transverse, petiolated, very rarely wanting.

Not common: found near London in June.

Sp. 75. *scapularis*. *Niger, abdomine rufo, basi nigrâ, coxis et trochanteribus anterioribus, picturis thoracis et ore flavis.* (Long. corp.  $2\frac{1}{2}$  lin.; Exp. Alar. 5 lin.)

Tr. *scapularis*. *Steph. Nomen. 2d edit. Gen. 715. 75.*

Black: palpi and mouth yellow; antennæ slender, curved at the tip beneath, with the apical joints rusty; thorax with a broad irregular line on each side before the wings, a dot at their base, and a short streak below them yellow; abdomen short, ovate, basal segment deeply channelled at its origin, black, its margin dull red, the remaining segments entirely dull red; legs moderate, 4 anterior pale tawny-red, with their coxæ and trochanters bright yellow, posterior coxæ black, trochanters black, yellow at the apex, femora and tibiæ red, the apex of the latter and the tarsi fuscous; wings hyaline; cellule wanting.

Found near London, but rarely, in June.



Sp. 76. *semicaligatus*. *Niger, abdominis medio rufo, pedibus anterioribus rufis, femoribus fulvis, posticis nigris, femorum et tibiærum basi rufis, facie nec non articulo 1-mo antennarum flavis.* (Long. corp.  $3\frac{1}{4}$ —5 lin.; Exp. Alar. 6— $7\frac{1}{2}$  lin.)

Tr. *semicaligatus*. *Gravenhorst, ii. 271.—Steph. Nomen. 2d edit. Gen. 715. 76.*

Black: face and mouth yellow; tips of the mandibles black; antennæ as long as the body, black, or rusty-brown, the basal joint yellow beneath; thorax sometimes with a yellow dot below the wings; abdomen rather narrower than the thorax, somewhat sessile, the basal segment black, 2nd to 5th of nearly equal width, being very gradually broader, 3rd red, with its edge at times blackish, 4th red or chestnut, with the tip dusky, or totally black, of which colour are the remaining segments; legs rather long, 4 anterior yellow or pale tawny, with the femora and sometimes the tibiæ of a brighter hue, coxæ with a black dot, or black with the tip yellow, the middle pair sometimes totally black; posterior red, the tarsi, apex of the tibiæ, coxæ and trochanters, or their base, black, the tibiæ yellowish towards the base; wings hyaline; cellule 3-angular, somewhat petiolated.

Not very common: found in the neighbourhood of London in June.

Sp. 77. *insolens*. *Niger, segmento 3 pedibusque rufis, coxis et trochanteribus, nec non tibiærum posticarum apice nigris; mas palpis albis.* (Long. corp. 4—5 lin.; Exp. Alar. 7—9 lin.)

Tr. *insolens*. *Gravenhorst, ii. 274.—Steph. Nomen. 2d edit. Gen. 715. 77.*

Black: palpi of the male white; antennæ about as long as the body, involuted at the tip; abdomen rather narrow, of the male a little dilated at the apex, of the female ovate-fusiform, the basal segment with a fovea at the base, sometimes produced into a narrow groove, extending beyond the middle, the 2nd of the female sometimes with an obscure chestnut lateral spot, 3rd red, with the margins occasionally black in the female, remainder black and silky; legs slender, red, coxæ and trochanters black, tarsi black, the 4 anterior reddish at the base; hinder tibiæ black at the tip; wings rather smoky-hyaline; cellule irregular and slightly petiolated.

Not very common: taken in June in the vicinity of London, and in Salop.

Sp. 78. *zonatus*. *Niger, abdominis medio rufo, pedibus anterioribus tibiærumque posticarum apice fulvis, coxis et trochanteribus nigris, ore, facie et maculis 2-bus thoracis flavis.* (Long. corp. 5 lin.; Exp. Alar.  $8\frac{1}{2}$  lin.)

Tr. *zonatus*. *Steph. Nomen. 2d edit. Gen. 715. 78.*

Black: mouth and face yellow, tips of the mandibles black; antennæ as long as the body, rather slender, dusky-black, beneath with the 3 basal joints black, the remainder red; thorax with a large irregular yellow patch on each side before the wings; abdomen elongate, clavate, slightly petiolated, acute at the apex, the basal segment black, 2nd and 3rd, or the basal half of

the 4th, bright red, remainder black and silky; legs moderate, 4 anterior pale tawny-red, with the base of the femora slightly blackish, coxæ and trochanters all black; posterior femora black, their tibiæ red at the base and black at the apex; tarsi fuscous; wings hyaline; cellule wanting.

Rare: found near London in July.

Sp. 79. *petulans*. *Niger, segmentis 2 et 3 pedibusque rufis, coxis et trochanteribus nigris, antennis subtus fulvis*. (Long. corp.  $3\frac{1}{2}$ —4 lin.; Exp. Alar. 5—6 lin.)

Tr. *petulans*. *Gravenhorst*, ii. 275.—*Steph. Nomen. 2d edit. Gen. 715. 79.*

Black: palpi and middle of the mandibles rusty; antennæ fulvous beneath, with the basal joint entirely black; abdomen with the 2nd and 3rd segments red; legs red; wings smoky-hyaline; cellule irregular, somewhat petiolated.

Found in the vicinity of the metropolis in June, and in Salop.

Sp. 80. *evolans*. *Niger, segmentis 2 et 3 castaneis illo basi hoc apice nigris, pedibus rufis, coxis et trochanteribus nigris*. (Long. corp.  $3\frac{1}{2}$ — $4\frac{1}{4}$  lin.; Exp. Alar. 5—7 lin.)

Tr. *evolans*. *Gravenhorst*, ii. 277.—*Steph. Nomen. 2d edit. Gen. 715. 80.*

Black: antennæ shorter than the body, the apex recurved; abdomen petiolated, narrower than the thorax, fusiform, basal segment smooth, black, 2nd chestnut, with the base dusky, 3rd chestnut, with the margin sometimes black, remainder black; legs rather slender, red, coxæ and trochanters black; hinder tarsi fuscous; wings somewhat hyaline; cellule minute, petiolated.

Taken in June near London, and in Salop.

Sp. 81. *erythropalpus*. *Niger, abdominis medio rufo, pedibus anterioribus rufis, coxis et trochanteribus nigris, posticis nigris basi tibiæ rufæ, ore, lineis duabus fuciei, antennarumque articulo 1-mo subtus, flavis*. (Long. corp. 4—5 lin.; Exp. Alar.  $6\frac{1}{2}$ — $7\frac{1}{2}$  lin.)

Ich. *erythropalpus*. *Gmelin*, 2702.—Tr. *erythropalpus*.—*Steph. Nomen. 2d edit. Gen. 715. 81.*

Black: mouth and clypeus yellowish, the tip of the mandibles black; a whitish-yellow line from the insertion of the antennæ extending obliquely to the lower orbits; antennæ scarcely so long as the body, the apex curved, fuscous or rusty beneath, with the 2 basal joints ochreous: abdomen somewhat sessile and linear, or oblong-ovate, the basal segment a little aciculated and slightly channelled, black, with the margin reddish; 2nd to 4th dull red, the edge of the 4th black, remainder black; legs moderate, 4 anterior tawny-red, with the coxæ and base of the trochanters black; posterior black, with the tip of the trochanters and base of the tibiæ red; wings hyaline; cellule 3-angular, minute, with a long petiole.

Found near London: taken at Hertford in July last.



Sp. 82. *fulvilabris*. *Niger, abdominis medio pedibusque anterioribus rufis, pedibus posticis nigris, tarsis et tibiis rufis, his apice nigro, ore testaceo.* (Long. corp.  $4\frac{1}{2}$  lin.; Exp. Alar.  $6\frac{1}{2}$  lin.)

Tr. *fulvilabris*. *Gravenhorst, ii. 292.—Steph. Nomen. 2d edit. Gen. 715. 82.*

Black: clypeus and labrum tawny straw-colour; palpi and mandibles dull straw, the latter black at the tip; antennæ porrect, shorter than the body, the tip incurved, rusty beneath; abdomen silky, narrower than the thorax, somewhat linear, and slightly petiolated; basal segment black, 2nd to 4th tawny-red, the extreme margin of the latter dusky; legs rather slender; 4 anterior tawny-red, coxæ black at the base; posterior coxæ black, trochanters black, red at the tip, femora black, the upper margin chestnut, tibiæ red, with the apex black, tarsi reddish; wings hyaline; cellule irregular, petiolated.

Found in June in the neighbourhood of the metropolis, and in Salop.

Sp. 83. *parvulus*. *Niger, abdominis medio fulvo, pedibus anterioribus fulvis, coxis basi nigrâ, posticis nigris, tibiis testaceis apice nigricante, antennis subtus stramineis, cellulâ nullâ.* (Long. corp.  $2\frac{1}{4}$  lin.; Exp. Alar. 4 lin.)

Tr. *parvulus*. *Gravenhorst, ii. 294.—Steph. Nomen. 2d edit. Gen. 715. 83.*

Black: antennæ straw-coloured beneath, with the basal joint totally black; abdomen somewhat cylindric and sessile, with the 2nd to 4th segments tawny, the back of the 5th red; legs moderate, 4 anterior tawny, coxæ either entirely or at the base alone black, posterior black, with the tips of the coxæ and trochanters straw-coloured; tibiæ testaceous, with the apex dusky; tarsi red-brown; wings smoky-hyaline; cellule none.

Taken in June near Hertford.

Sp. 84. *vernalis*. *Niger, abdominis medio, femoribus anterioribus tibiisque rufis.* (Long. corp. 3—4 lin.; Exp. Alar.  $5-6\frac{1}{2}$  lin.)

Tr. *vernalis*. *Gravenhorst, ii. 294.—Steph. Nomen. 2d edit. Gen. 715. 84.*

Black: antennæ slender, about as long as the body, the tip incurved, generally reddish beneath; with the basal joint black; abdomen somewhat silky, petiolated, narrower than the thorax, fusiform, the basal segment black, smooth, narrow, rather dilated towards the apex, which is red, the lateral tubercles placed in the middle, 2nd red, with a black cloud in the middle of the base, 3rd and 4th red, the edge of the latter black, remainder black; legs rather slender, 4 anterior rusty-red, trochanters and coxæ black, the former sometimes red, entirely or at the apex; posterior legs black, tibiæ and tarsi reddish-brown, sometimes paler at the base; wings nearly hyaline; cellule irregular, somewhat petiolated.

Found, but not commonly, in May, near London.

Sp. 85. *pratensis*. *Niger, abdomine rufo, segmento I-nigro, tibiis tarsisque rufis.* (Long. corp.  $2\frac{1}{2}-3$  lin.; Exp. Alar.  $4-5\frac{1}{2}$  lin.)

*Tr. pratensis.* Gravenhorst, ii. 299.—*Steph. Nomen. 2d edit. Gen. 715. 85.*

Black: labrum dull rusty; antennæ rather more than half the length of the body, the 3 or 4 basal joints beneath black, the remainder red; abdomen sessile, narrower than the thorax, oblong, red, the basal joint black and channelled, the remainder a little broader; legs moderate, red, coxæ and trochanters black, the tips of the latter red, the middle femora blackish towards the base without, the posterior rather thickened, black, with the extreme base and apex reddish, tibiæ and tarsi red; wings smoky-hyaline, with an irregular somewhat sessile cellule.

Taken in the beginning of June, near London.

Sp. 86. *propinquus.* *Niger, abdomine rufo, segmento 1-mo nigro, pedibus anterioribus et tiliarum posticarum basi rufis, antennis subtus stramineis, ore ferrugineo.* (Long. corp.  $3\frac{1}{4}$  lin.; Exp. Alar.  $5\frac{1}{2}$  lin.)

*Tr. propinquus.* Gravenhorst, ii. 300.—*Steph. Nomen. 2d edit. Gen. 715. 86.*

Black: mouth ferruginous; tips of the mandibles black; antennæ nearly as long as the body, with the 2 basal joints beneath testaceous, remainder gradually obscure; abdomen red, with the basal segment black; legs moderate, 4 anterior red, with all the coxæ and trochanters entirely black, or the middle pair of coxæ only black at the base; hinder coxæ black, red beneath at the apex, their trochanters red with a black dot above, femora black, tibiæ red, with the tip black; tarsi fuscous; wings hyaline; cellule irregular, petiolated.

Found in June within the metropolitan district.

Sp. 87. *signator.* *Niger, segmentis 2-5, femoribus anterioribus, tibiisque rufis, harum posticis apice nigro, arcu faciali flavo, antennis subtus testaceis.* (Long. corp.  $3\frac{1}{2}$ —4 lin.; Exp. Alar. 5—7 lin.)

*Tr. signator.* Gravenhorst, ii. 301.—*Steph. Nomen. 2d edit. Gen. 715. 87.*

Black: palpi and mandibles rusty in the middle, the face with a semicircular yellow spot, the convex part looking towards the mouth; antennæ, except from 1 to 3 basal joints, tawny beneath; abdomen silky, the basal segment black, 2nd to 5th red, the 2nd of the male with a black or fuscous spot, the 6th and 7th black or dusky, with the margins chestnut; legs moderate, 4 anterior red, coxæ and trochanters black at the base, posterior black, the apex of the trochanters rusty, tibiæ the same, with the tip black, the base of the 1st joint of the tarsi rusty; wings hyaline, or a little smoky; cellule irregular, petiolated.

Taken in the vicinity of London in June and July.

Sp. 88. *rutilator.* *Niger, abdomine rufo, basi nigrâ, pedibus anterioribus fulvis, basi nigrâ, tibiis posticis basi rufis, punctis 2-bus faciei flavis, antennis subtus rufis aut flavis.* (Long. corp. 3— $4\frac{1}{2}$  lin.; Exp. Alar. 6—8 lin.)

*Ich. rutilator.* Linné.—*Steph. Catal. 351. No. 4469.*

Black: palpi and mouth, and, in the males, a more or less extensive sub-bifid spot on the face, which is distinctly divided in the female, yellow;



antennæ about half the length of the body, curved at the tip, fuscous, rusty or yellow beneath; abdomen silky, somewhat sessile, narrow and sublinear, or a little clavate in the male, broader, clavate-fuciform in the female, red, with the basal segment, and sometimes 2, more or less united, dots on the 2nd, black; the female with the basal portion of the 1st segment only black; legs shortish, 4 anterior fulvous, with the base of the femora occasionally more or less black, the coxæ and trochanters yellow beneath; posterior black, with the base of the tibiæ reddish; tips of the trochanters yellowish; wings rather smoky-hyaline; cellule irregular 3-angular, petiolated.

A variable species: the terminal segment of the abdomen is occasionally black.

Not uncommon in the vicinity of London, frequenting woody places, umbelliferous flowers, &c. in June and July: found also at Netley, in the New Forest, &c.

Sp. 89. *quadratus*. *Niger, abdomine rufo, basi nigra, pedibus anterioribus stramineo-fulvis, tibiis posticis basi pallidâ, antennis subtus, ore maculâque quadratâ faciei flavis.* (Long. corp.  $3\frac{1}{2}$ —5 lin.; Exp. Alar.  $5\frac{1}{2}$ —8 lin.)

Tr. *quadratus*. *Steph. Nomen. 2d edit. Gen. 715. 89.*

Black: palpi and mouth yellow, face with a large quadrate yellow spot, separated from the mouth by a transverse black streak; antennæ about half the length of the body, stoutish, black, yellow or red beneath; abdomen red, linear or somewhat clavate in the male, with the basal segment, and occasionally a double spot, or abbreviated transverse fascia on the 2nd black; of the female broad and clavate, and with the basal half of the 1st segment black; legs moderate, 4 anterior yellowish-red, with the coxæ and trochanters beneath paler, the outer upper edge of the femora very rarely black towards the base; posterior black, trochanters at the apex yellowish, tibiæ pale towards the base; wings rather smoky-hyaline; cellule small, 3-angular, petiolated.

Also subject to considerable variety.

More abundant than the last, at least within the metropolitan district, occurring on umbelliferous flowers in June, &c.

Sp. 90. *atriceps*. *Niger, abdomine rufo, basi nigrâ, pedibus anterioribus tibiisque posticis rufis, ore fulvo, coxis et trochanteribus atris.* (Long. corp. 4—5 lin.; Exp. Alar. 7—8 lin.)

Tr. *atriceps*. *Steph. Nomen. 2d edit. Gen. 715. 90.*

Black: mouth tawny; abdomen silky, red, its basal segment black, with the extreme margin red; legs moderate, 4 anterior with the femora, tibiæ, and tarsi red, all the coxæ and trochanters deep black, posterior with the femora black, their extreme apex and the tibiæ red, tarsi fuscous; wings somewhat hyaline; cellule moderate, 3-angular, petiolated.

Found, but somewhat rarely, near London in June.

Sp. 91. *facialis*. *Niger, abdominis medio rufo, pedibus anterioribus fulvis, basi plerumque nigrâ, tibiis posticis basi rufis, antennis subtus ore maculâque faciei flavis.* (Long. corp. 3—5 lin.; Exp. Alar.  $5\frac{1}{2}$ —9 lin.)

Tr. *facialis*. *Steph. Nomen. 2d edit. Gen. 715. 91.*

Black: mouth, and a more or less extensive, mostly semicircular, yellow spot on the face; antennæ about half the length of the body, pale red or yellow beneath; abdomen silky, linear or somewhat clavate in the male, the basal segment black, its edge and the 3 following segments red, the 2nd frequently with 2 confluent spots or a transverse fascia, and the 3rd also occasionally with a cloud at the base black, 5th and following glossy black; legs moderate, 4 anterior fulvous, with the base of the femora occasionally black, trochanters yellow, tibiæ reddish at the base; wings rather hyaline; cellule smooth, irregular, petiolated.

Not uncommon within the metropolitan district in June and July, frequenting umbelliferous flowers, &c.

Sp. 92. *quadrilineatus*. *Niger, abdominis medio, tibiis anterioribus, femoribusque rufis, orbitis oculorum internis, lineis 2-bus faciei, lineâque ante alas, flavis.* (Long. corp.  $3\frac{1}{2}$ —4 lin.; Exp. Alar. 5—7 lin.)

Tr. *quadrilineatus*. *Gravenhorst, ii. 320.—Steph. Nomen. 2d edit. Gen. 715. 92.*

Black: palpi, spot on the mandibles, a streak on the clypeus, inner orbits, and 2 longitudinal lines on the face, united below to the pale orbits, and extending towards the base of the antennæ upwards, and a minute dot on the cheeks, yellow; antennæ slender, the 2 basal joints yellow beneath, and the thorax with a streak before the wings and a dot below them also yellow; abdomen with the basal segment black, the tip chestnut, 2nd chestnut, with a black lateral spot, 3rd chestnut, 4th also chestnut, with a black fascia before the margin, remainder black; legs red, coxæ and trochanters black, chestnut beneath, the extreme base of the hinder femora blackish; hinder tibiæ and tarsi fuscous, the former with a chestnut tinge towards the base; wings slightly hyaline; cellule somewhat 5-angular.

Apparently rare: taken at Hertford in June.

Sp. 93. *hamulus*. *Niger, abdomine rufo, basi nigrâ, tibiis anterioribus femoribusque rufis, ore et lineâ hamatâ ante alas albido-flavis.* (Long. corp.  $3\frac{1}{2}$  lin.; Exp. Alar.  $5\frac{1}{2}$  lin.)

Tr. *hamulus*. *Gravenhorst, ii. 322.—Steph. Nomen. 2d edit. Gen. 715. 93.*

Black: mouth and clypeus dull whitish straw-colour, the base and apex of the mandibles black; antennæ slender, porrect, the tip a little recurved; thorax with a dot, and a line before the wings, the latter hooked towards the front, whitish-yellow; abdomen oblong, somewhat sessile, the basal segment black, the 2nd black with the apex chestnut, the remainder entirely chestnut; ovipositor black; legs rather slender, 4 anterior red, coxæ and trochanters black, posterior black, with the femora chestnut, the base and apex blackish, the base of the tibiæ dull chestnut; wings hyaline; cellule none.

Also rare: taken in June, at Darenth wood.



Sp. 94. bicolor. *Niger, segmentis 1-4, femoribus, tibiisque rufis, harum posticis apice nigro.* (Long. corp. 5 lin. ; Exp. Alar.  $7\frac{1}{2}$  lin.)

Tr. bicolor. *Gravenhorst*, ii. 326.—*Steph. Nomen. 2d edit. Gen. 715. 94.*

Black : antennæ slender, rather shorter than the body, rusty beneath towards the apex ; abdomen with the basal segment slightly channelled, red, 3 following also red, remainder black ; legs moderate, 4 anterior red, with the coxæ and trochanters black ; posterior black, tibiæ red, the tip black ; wings somewhat hyaline ; cellule wanting.

Found, but rarely, near London, in June and July.

### GENUS XLVI.—EXOCHUS, *Gravenhorst*.

*Antennæ* short, straight, somewhat filiform, composed of about 27 articulations ; *head* rather short, transverse, *face* more or less protuberant below the antennæ ; *eyes* ovate, or somewhat orbicular : *thorax* cylindric, or slightly gibbous : *scutellum* flattish, triangular : *wings* moderate, or smallish ; cellule none, or small, 3-angular, and petiolated : *abdomen* somewhat sessile, convex, oblong-cylindric, sometimes a little thickened, shining, smooth, the basal segment slightly channelled, its lateral tubercles placed beyond the middle : *ovipositor* generally concealed : *legs* short, robust, *femora* and *tibiæ* a little compressed.

This genus, as indicated by Gravenhorst, differs chiefly from the preceding by having the legs short and thick, the face protuberant—whence its name—and the abdomen somewhat sessile, oblong-cylindric ; to which may be added the comparative brevity of the wings and the smallness of stature : the insects are generally found amongst grass, or on umbelliferous plants, during the summer and commencement of autumn.

#### § I. *Anterior wings with a small cellule.*

Sp. 1. frænator. *Niger sericeus, femoribus tibiisque rufis.* (Long. corp. 2— $3\frac{1}{4}$  lin. ; Exp. Alar.  $3\frac{1}{2}$ —5 lin.)

Ex. frænator. *Gravenhorst*, ii. 332.—*Steph. Nomen. 2d edit. Gen. 716. 1.*

Black and silky : mouth reddish, with the tips of the mandibles black ; antennæ about half the length of the body, the tip rather curved, beneath more or less rusty-red ; abdomen a little narrower than the thorax, somewhat oblong or cylindric, the 2nd to 6th segments of equal width, the apex a little thickened in the females, basal segment with 2 elevated lines, remainder generally with the extreme edges reddish ; legs shortish and rather stout, red, with the coxæ black ; trochanters either black with the tip red, or entirely red ; tibiæ with the base in general either palish or yellowish ; wings hyaline ; cellule small, irregular, obliquely transverse, petiolated.

Not very abundant : taken at Darenth wood in June, and other places within the metropolitan district.

Sp. 2. *curvator*. *Niger, pedibus rufis, cellulâ longepetiolata*. (Long. corp.  $2\frac{1}{2}$  lin.; Exp. Alar. 4 lin.)

Ich. *curvator*. *Fabricius, Ent.* 177.—Ex. *curvator*. *Steph. Nomen. 2d edit. Gen.* 716. 2.

Black: palpi straw-coloured; antennæ rather above half the length of the body, the tip curved; thorax somewhat cylindric; abdomen as long and as broad as the thorax, slightly sessile, oblong, shining, a little thickened at the apex, the basal segment with 2 obsolete elevated lines; legs short, red; wings ample, hyaline; cellule irregular, obliquely-transverse, with a long peduncle.

Not common: taken in June near London.

Sp. 3. *podagricus*. *Niger, pedibus rufis, plerumque maculâ coxarum femorumque nigrâ, cellulâ subpetiolatâ*. (Long. corp.  $2\frac{1}{2}$  lin.; Exp. Alar. 4 lin.)

Ex. *podagricus*. *Gravenhorst, ii.* 336.—*Steph. Nomen. 2d edit. Gen.* 716. 3.

Black: palpi dusky straw-colour; antennæ curved, rusty beneath, a little obscure towards the apex; abdomen rather thickened at the tip; legs dull red, coxæ black with the apex reddish, 4 anterior femora for the most part with a small black spot exteriorly, and the hinder pair with a larger fuscous one; wings hyaline; cellule obliquely-transverse, and somewhat sessile, or slightly petiolated.

Not uncommon in the vicinity of London, and in Salop, in June.

Sp. 4. *Æthiops*. *Niger, solis tibiis rufis*. (Long. corp.  $2\frac{1}{2}$  lin.; Exp. Alar.  $4\frac{1}{2}$  lin.)

Ex. *Æthiops*. *Gravenhorst, i.* 693.—*Steph. Nomen. 2d edit. Gen.* 716. 4.

Black: mouth rusty; antennæ a little curved, rather longer than half the body, red beneath towards the base; thorax cylindric; abdomen smooth, shining, the basal segment rather dilated towards the apex, 2nd to 5th of equal width, 2nd quadrate, remainder somewhat shorter; legs with the anterior tibiæ red, the middle rusty-red, posterior fuscous, rusty-red without; tarsi red, posterior rusty; wings somewhat smoky-hyaline; cellule rather large, 3-angular, nearly sessile.

Found in the vicinity of London in June, and in Salop.

§ II. *Anterior wings without a cellule.*

Sp. 5. *mansuetor*. *Niger, pedibus antennarum basi, et maculâ faciei, rufis*. (Long. corp.  $1\frac{1}{2}$ — $2\frac{1}{4}$  lin.; Exp. Alar.  $2\frac{1}{2}$ —4 lin.)

Ex. *mansuetor*. *Gravenhorst, ii.* 339.—*Steph. Nomen. 2d edit. Gen.* 716. 5.

Black: palpi straw-colour; face very protuberant, with a red spot of variable size; antennæ shorter than half the body, curved at the tip, fuscous, beneath red or ferruginous, dusky towards the apex; thorax rather cylindric; abdomen somewhat silky, oblong-ovate, a little thickened at the apex, and the basal segment a little dilated towards the tip, 2nd to 4th somewhat equal in width, the margins of the segments sometimes chestnut; legs thick and



red; coxæ generally black at the base, the hinder pair occasionally entirely black; wings hyaline.

Abundant in the neighbourhood of the metropolis in the summer, at Hertford, Darenth, &c.; also in the New Forest, Norfolk, Salop, and other parts.

Sp. 6. *coronatus*. *Niger, pedibus rufis, tibiis posticis basi pallidâ, scutelli apice, punctoque ad radicem alarum, albidis, fuscâ faciei stramineâ.* (Long. corp. 2—3 lin.; Exp. Alar.  $3\frac{1}{2}$ —5 lin.)

Ex. *coronatus*. *Gravenhorst*, ii. 342.—*Steph. Nomen. 2d edit. Gen.* 716. 6.

Black: palpi and a transverse curved line beneath the antennæ straw-colour; thorax with a streak or dot before the wings reddish, and sometimes a faint whitish line below the scutellum, the apex of which is more or less whitish; abdomen of the male somewhat cylindric, and narrower than the thorax; of the female as broad as the thorax, somewhat fusiform, the margins of the segments at times obscurely chestnut; legs rather slender, tawny-red, the hinder tibiæ sometimes pale at the base, and the base of the posterior coxæ occasionally black; wings somewhat hyaline.

Not very common: taken at Coombe wood, and in the New Forest and Salop, in June.

Sp. 7. *lentipes*. *Niger, pedibus fulvis, tibiis albis, posticis apice fusco, scutello apice rufo, facie et thorace flavomaculatis.* (Long. corp.  $2\frac{1}{2}$ —3 lin.; Exp. Alar. 4—5 lin.)

Ex. *lentipes*. *Gravenhorst*, ii. 344.—*Steph. Nomen. 2d edit. Gen.* 716. 7.

Black: face yellow, with a black dot, or with a yellow band, notched below, in the middle; antennæ fuscous-red, straw-coloured beneath, with the basal joint totally black; thorax with a line before and below the wings, a spot before the neck, and sometimes a streak beneath the scutellum whitish, tip of the latter the same or reddish; abdomen somewhat silky, the extreme margin of the intermediate segments reddish; legs tawny-red; tibiæ white, or yellowish, 4 anterior tawny at the tip, the extreme base and apex of the hinder fuscous; wings somewhat smoky-hyaline.

Scarce: taken in June near London.

Sp. 8. *femoralis*. *Niger, pedibus crassissimis rufis, antennis subtus ferrugineis.* (Long. corp.  $2\frac{1}{2}$ — $3\frac{1}{2}$  lin.; Exp. Alar.  $4\frac{1}{4}$ — $5\frac{1}{2}$  lin.)

Ich. *femoralis*. *Fourcroy, Ent. Par.* 396.—Ex. *femoralis*. *Steph. Nomen. 2d edit. Gen.* 716. 8.

Black: palpi straw-coloured or brown; face reddish, or bay, beneath the antennæ; the latter half the length of the body, curved at the tip, rusty or brownish beneath; abdomen as wide as the thorax, oblong, the basal segment a little narrowed towards its origin, and channelled; legs very much thickened, red, the anterior pair of coxæ sometimes black, and the hinde

chestnut, with the base brown, the trochanters also black at the base; wings somewhat smoky-hyaline.

Also rather scarce: taken in the neighbourhood of London, in June.

Sp. 9. *prosopius*. *Niger, facie pedibusque flavis, femoribus fulvis, coxis posticis supra nigris, scutelli summo apice pallido.* (Long. corp. 3—4 lin.; Exp. Alar. 5—6 lin.)

Ex. *prosopius*. *Gravenhorst*, ii. 342.—*Steph. Nomen. 2d edit. Gen.* 716. 9.

Black: palpi, a spot on the mandibles, and the face yellow, the last with a short black streak; antennæ with the basal joint sometimes yellow beneath, and the sides of the prothorax occasionally with a yellow dot; the apex of the scutellum mostly with 1 or 2 minute yellow or reddish dots; abdomen as wide as the thorax, somewhat cylindric; legs pale yellow, 4 anterior with the femora externally more or less tawny; posterior coxæ black above, femora tawny, tibiæ fulvous towards the apex, the apex itself blackish; claws all fuscous; wings smoky-hyaline.

Found, but not commonly, near London, in June.

Sp. 10. *gravipes*. *Niger, pedibus rufis, coxis nigris.* (Long. corp.  $3\frac{1}{2}$ —4 lin.; Exp. Alar.  $5-6\frac{1}{2}$  lin.)

Ex. *gravipes*. *Gravenhorst*, ii. 351.—*Steph. Nomen. 2d edit. Gen.* 716. 10.

Black: antennæ about half the length of the body, or rather longer, curved at the tip, porrect in the male; abdomen somewhat silky, rather narrower than the thorax, a little thickened towards the apex in the females, the basal segment with 2 short elevated lines, 2nd to 5th of nearly equal width; legs short, tawny-red, with the coxæ and trochanters black, the apex of the latter sometimes red, and the extreme base of the hinder tibiæ occasionally pale; wings somewhat smoky-hyaline.

Also taken, in June and July, near London.

Sp. 11. *asper*. *Niger, abdominis basi scabriculâ, pedibus rufis.* (Long. corp. 2 lin.; Exp. Alar.  $3\frac{1}{2}$  lin.)

Ex. *asper*. *Gravenhorst*, ii. 694.—*Steph. Nomen. 2d edit. Gen.* 716. 11.

Black: mouth ferruginous; antennæ rather longer than half the body, reddish beneath at the base; abdomen as wide as the thorax, the basal segments roughish, with 2 elevated longitudinal lines, and a little narrowed towards the base, 2nd quadrate and also roughish, remainder shorter and smoother; legs pale red, hinder coxæ above black at the base; wings hyaline.

Found near London, and in Salop, in June.

Sp. 12. *cristator*. *Niger, abdominis basi scabriculâ, pedibus rufis, posticorum coxis nigris, tibiis basi summâ albidâ, facie flavâ: mas antennis subtus fulvis.* (Long. corp.  $3\frac{1}{4}$  lin.; Exp. Alar.  $5\frac{1}{2}$  lin.)

Ex. *cristator*. *Gravenhorst*, ii. 352.—*Steph. Nomen. 2d edit. Gen.* 716. 12.



Black : mouth and face yellow ; antennæ of the male slender, rather shorter than the body, tawny-red beneath, with the basal joint yellow ; of the female half the length of the body, stoutish and black ; thorax silky ; abdomen narrower than the thorax in the male, of the female as wide, a little thickened towards the apex, the basal segment somewhat quadrate and roughish, with 2 elevated lines, 2nd and 3rd also roughish, with punctures, and slightly opaque, with a faintly elevated longitudinal line ; remainder rather shining, the intermediate segments occasionally edged with chestnut ; legs red, 4 anterior of the male with the coxæ and trochanters yellow beneath ; posterior coxæ black, their tibiæ pale at the extreme base ; wings somewhat hyaline.

Taken in June, near London, and in Salop.

Sp. 13. *funebri*. *Niger, abdominis basi scabriculâ, pedibus anterioribus rufis, posticis nigris basi tibiæ albâ.* (Long. corp.  $2\frac{3}{4}$  lin. ; Exp. Alar.  $4\frac{1}{2}$  lin.)

Ex. *funebri*. *Gravenhorst*, i. 695.—*Steph. Nomen*. 2d edit. Gen. 716. 13.

Black : mouth ferruginous ; abdomen as in the foregoing species, roughish at the base ; legs moderate, 4 anterior red, coxæ and trochanters black, middle with the femora beneath towards the base black, tibiæ without and tarsi fuscous, posterior black, with the base of the tibiæ white ; wings smoky-hyaline.

Found in June in the vicinity of the metropolis, and in Salop.

## GENUS XLVII.—SCOLOBATES, *Gravenhorst*.

*Antennæ* porrect, slender and curved at the apex : *head* transverse, a little swollen in front, and deeply excavated behind : *eyes* ovate : *thorax* gibbous : *scutellum* 3-angular, somewhat gibbous : *wings* moderate, cellule wanting : *abdomen* somewhat sessile, oblong-ovate, the apex slightly compressed, the 1st segment sensibly narrowed towards the base, the lateral tubercles placed before the middle ; *ovipositor* scarcely exerted ; *legs* various, 4 anterior moderate, posterior pair elongate, *tarsi* either simple or thickened, as in the *Anomala*.

These insects principally differ from the preceding by having the hinder pair of legs elongated, and their tarsi thickened, as in the genus *Anomalon* ; the wings moderate, destitute of a cellule, the abdomen somewhat sessile, the 1st segment narrowed towards the base, and its lateral tubercles placed before the middle :—there are probably more indigenous species of this genus than I have indicated, as Mr. Shuckard informs me has seen 3 or 4, unnamed, placed in some cabinets.

Sp. 1. *crassitarsus*. *Niger, abdominis medio, tibiis anterioribus, femoribus, capitisque picturis rufis.* (Long. corp. 3—4 lin.; Exp. Alar. 5—7 lin.)

Sc. *crassitarsus*. *Gravenhorst*, ii. 360.—*Steph. Nomen. 2d edit. Gen. 717. 1.*

Black: head tawny-rusty, with the crown, occiput, sometimes a dot beneath the antennæ, and 2 lines on the face black; antennæ rusty, dusky towards the base, the 1st joint black above, yellowish beneath; abdomen a little depressed, slightly channelled, black, the apex red, 2nd and 3rd red, remainder black, with the base of the 4th slightly reddish; anterior legs testaceous-red, coxæ, trochanters, and extreme base of the middle femora black, posterior with the femora red, the tibiæ reddish at the base, the apex blackish; tarsi rather thick and black; wings rather smoky-hyaline.

Taken very rarely, in July and August, within the metropolitan district.

### GENUS XLVIII.—TROGUS, *Panzer*.

*Antennæ* moderate, about half the length of the body, setaceous, porrect, or curved at the apex, sometimes faintly serrated within: *head* short, transverse, a little narrowed towards the collar: *eyes* oval: *thorax* gibbous: *scutellum* somewhat quadrate, more or less gibbous: *wings* rather ample, in the British species transparent; cellule 3-angular or 5-angular, sessile, or somewhat petiolated: *abdomen* petiolated, convex, oblong, or oblong-ovate, the anterior portion of the 1st segment somewhat gibbous, generally with 2 elevated lines, peduncle slender, linear and channelled: *ovipositor* concealed: *legs* moderate, femora and tibiæ rather stoutish.

The splendid insects, contained in this fine genus, may be distinguished not only by their great bulk, but chiefly by having the scutellum very convex, the abdomen distinctly pedunculated and convex, and the head transverse; their larvæ usually prey upon those of the Sphingidæ, or of the larger Bombycidæ and Noctuidæ: from the splendid series I possess of these insects, and from their habit, &c. I am induced to consider that Gravenhorst has confused at least 3 distinct species together, as I have attempted to indicate.

Sp. 1. *alboguttatus*. *Niger, abdomine cærulescente, segmenti 1-mi margine et segmenti 7-imî lineâ longitudinali albis, scutello albo: mas facie albomaculatâ; fœmina annulo antennarum albo.* (Long. corp.  $6\frac{1}{2}$ —9 lin.; Exp. Alar.  $10\frac{1}{2}$ — $15\frac{1}{4}$  lin.)

Tr. *alboguttatus*. *Gravenhorst*, ii. 374.—*Steph. Nomen. 2d edit. Gen. 718. 1.*

Black: palpi of the male, 2 spots on the clypeus, a dot on the mandibles and cheeks, and the inner orbits ochreous-white, or with the entire clypeus white, and the face white, with a black spot; antennæ of the same sex porrect, a little serrated within; of the female red at the tip, with the 11th



to 14th joints whitish, fuscous beneath; thorax with a white dot before and beneath the wings, or a streak in front, one or other at times deficient; scutellum whitish; abdomen blackish, the basal segment in the male mostly with an interrupted white edge, and in the female with 2 white dots on the angles, the edge of the 3rd occasionally reddish and of the 5th and 6th whitish, the 7th, in both sexes, either with a longitudinal or oval white patch; legs slenderish, black, 4 anterior of the male ochreous-white beneath, the hinder trochanters and tibiæ the same, the tip of the latter more or less black; of the female the tibiæ and tarsi are fuscous, with the base of the femora sometimes reddish; wings smoky-hyaline; cellule 3-angular, faintly petiolated.

Not very abundant: found occasionally in June at Darenth, and other places within the metropolitan district; also in Devonshire, the New Forest, Salop, Norfolk, &c.

Sp. 2. *lutorius*. *Testaceus, capite thoraceque nigro rufoque pictis, scutello et lineâ ante alas flavis, abdomine pedibusque testaceo-fulvis, coxis posticis plerumque basi nigris, antennis nigris, basin versus rufis.* (Long. corp. ♂ 10—12 lin.; ♀ 7½—10 lin.; Exp. Alar. 15—18 lin.)

Ic. *lutorius*. *Fabricius*.—*Steph. Catal.* 349. No. 4423.

Testaceous: head black, with the mouth and face yellow, the outer and vertical orbits red, or red with the crown and eyes black; antennæ of the male porrect, the basal joint rusty, fuscous above, 4 or 5 of the following totally red, or fuscous above and red beneath, the remainder always fuscous or black above; of the female curved, with about the 20 basal joints red or tawny, the remainder black; thorax black, with 2 longitudinal reddish lines, or red, with 3 black longitudinal lines, the central one mostly short, the upper part of the neck, a line before and a streak beneath, and another below the scutellum testaceous; scutellum yellow; abdomen testaceous, sometimes with a dusky or blackish spot at the base of the 5th and 6th segments; legs generally testaceous, anterior coxæ pale, posterior black, with the tip testaceous; hinder femora sometimes with a fuscous or blackish dot towards the apex; wings pale tawny-hyaline; cellule 3-angular.

An extremely variable species: in some examples the thorax is nearly black, with some faint reddish markings; in others it is red, with a few remote black streaks; the abdomen is occasionally wholly testaceous, and at times has 1 or more of the terminal segments black at the base: the legs also vary; in some examples all the coxæ are pale, in others 1, or more, pair is spotted with black; the hinder femora are sometimes immaculate, at others spotted, &c.

Not very common: taken occasionally in the vicinity of London, in gardens, woods, &c. towards the end of June and beginning of July.

Sp. 3. atrocaudatus. *Testaceus, capite rufo picto, thorace nigro, lineâ ante alas scutelloque flavis, abdominis segmentis 1-4 rufis, 5-7 nigris, pedibus testaceis, femoribus posticis maculâ nigrâ; antennis nigris, basin versus rufis.* (Long. corp. 8—10 lin.; Exp. Alar. 15—20 lin.)

Ich. nigricaudatus. *Marsham MS.—Steph. Catal. 349. No. 4421.*

Testaceous: head with the inner and vertical orbits red, face yellow; antennæ of the male porrect, rusty beneath, the 2 basal joints blackish, the 5 or 6 following rusty, and the remainder black above; of the female curved, the first 20 joints above and beneath tawny-red, the remainder black above, rusty beneath; thorax black, with a broad line before the wings and a short one beneath yellow; scutellum also yellow; abdomen with the 4 basal segments red, the 4th sometimes with a large black patch, rounded anteriorly on the middle of the hinder margin, having the angles above red, 5th to 7th black; legs pale testaceous, coxæ paler, or slightly spotted with black beneath; wings somewhat tawny-hyaline; cellule 3-angular.

Like the foregoing this species is variable.

Larva inhabits that of *Sphinx Ligustri*.

Less abundant than the last: it frequents gardens, woods, &c. in June and July.

Sp. 4. Atropos. *Capite, thoraceque nigro rufoque pictis, scutello et lineâ ante alas flavis, abdominis segmentis 1-3 rufo testaceis, 4-7 atris, pedibus testaceis, femoribus posticis apice maculâ nigrâ, antennis versus basin rufis.* (Long. corp. 12—15 lin.; Exp. Alar. 18—22 lin.)

Ich. Atropos. *Curtis, v. v. pl. 234.—Steph. Catal. 349. No. 4442.*

Head red; eyes, ocelli and occiput, black; face and mouth yellow; antennæ of the male nearly as long as the body, porrect; of the female shorter and curved; in both sexes pale ochreous-red at the base, the apex black, rusty beneath; thorax black, sometimes with a reddish central patch or 2 longitudinal reddish lines, and always with a line before and a short one beneath the wings yellow; scutellum yellow, generally with a reddish line beneath; metathorax generally with 2 large tawny spots; abdomen tawny-red, with the 3 basal segments tawny-red, the remainder deep shining black, the basal angles of the 4th at times reddish; legs pale testaceous, coxæ and trochanters paler, the anterior ones sometimes with a black spot beneath, and the hinder femora with a black spot at the apex; wings bright testaceous-yellow-hyaline, the tip fuscous; cellule 3-angular.

Also, like its congeners, variable.

Larva subsists on that of *Acherontia Atropos* and *Sphinx Ligustri*.

Also found in June and July, in woods, &c. within the metropolitan district; not very uncommon.

Sp. 5. flavatorius. *Testaceus, abdominis apice, geniculis posticis maculisque dorsalibus thoracis nigris; fœmina antennarum annulo pallido.* (Long. corp. 7—10 lin.; Exp. Alar. 14—18 lin.)



*Ich. flavatorius.* *Panzer.*—*Steph. Catal.* 349. No. 4419.

Testaceous : eyes and ocelli black ; male with the antennæ black, the basal joint beneath yellow, of the female a little curved at the tip, the 2 basal joints rusty, sometimes fuscous above, 4 or 5 following rusty or brown, 10 next ochreous, remainder black, rusty beneath ; thorax tawny, or rusty-yellow above, the prothorax with 2 longitudinal black streaks, or a fuscous spot on each side of the metathorax, sometimes black, with the breast, a line before the wings, and another beneath yellow, the metathorax with obscure reddish spots ; scutellum dull yellow ; abdomen generally with the terminal segment mostly black, and occasionally also the peduncle, and the 6th and 7th segments, and part of the 5th black, especially in the females ; legs moderate, rusty-yellow, the hinder femora generally with the apex black or fuscous ; wings testaceous-hyaline, rather obscure at the tip ; cellule nearly triangular.

Larva feeds upon that of *Smerinthus Tiliæ*, *Hypogymna dispar*, &c.

Taken near London and at Whittlesea Mere in June and July : rare.

*Sp. 6. luteiventris.* *Niger, facie et lineâ ante alas flavis, abdomine pedibusque testaceis, petiolo et coxis posticis nigris.* (Long. corp. 6—9½ lin. ; Exp. Alar. 12—17 lin.)

*Tr. luteiventris.* *Gravenhorst, ii. 386.*—*Steph. Nomen. 2d edit. Gen. 718. 6.*

Black : face, mouth, and orbits rusty-yellow, tips of the mandibles black ; antennæ about as long as the body, porrect, tawny beneath, fuscous above, and slightly tawny towards the base, the first 2 joints always black above and yellow below ; thorax black, with the upper and lateral margins of the collar, a line before, and a streak beneath the wings, and also below the scutellum, yellow, and 2 rather obscure spots on the metathorax red ; scutellum reddish-yellow ; abdomen testaceous, the peduncle and base of the 1st and 2nd segments black ; legs pale tawny-red, 4 anterior coxæ and trochanters yellow, black above, posterior coxæ pale straw, above black ; femora fulvous, with the extreme tip blackish, or black, with the base and apex tawny ; wings rather smoky-hyaline ; cellule 5-angular.

Also found, but very rarely, in the neighbourhood of London, and in Norfolk, in June and July.

*Sp. 7. dissimulator.* *Niger, segmentis 2 et 3 ore, facie, lineâ ante alas, scutello tibisque flavis, his apice nigrâ.* (Long. corp. 9—10 lin. ; Exp. Alar. 14—16 lin.)

*Tr. dissimulator.* *Steph. Nomen. 2d edit. Gen. 718. 7.*

Black : mouth, face, and vertical orbits yellow ; antennæ porrect, black, with the basal joint yellow beneath ; thorax with a line before the wings, a streak beneath and a dot at the base, and the scutellum yellow ; occasionally a streak beneath the latter and the anterior edge of the collar also yellow ; abdomen with the basal segment black, occasionally with the apical angles yellow, the 2 following segments yellow, the edge of the 2nd occasionally

dusky, remainder black; legs with the anterior coxæ and trochanters and femora black, more or less yellow at the apex, the posterior coxæ wholly black, trochanters black, with the tip yellow; femora black, tarsi and tibiæ all yellow, the hinder pair of the latter black at the apex; wings smoky-hyaline; cellule 5-angular.

The basal angles of the 4th segment are occasionally yellow, and the 2nd and 3rd have at times a black triangular spot on the middle of the margins.

This and the preceding species closely resemble true Ichneumons, and were it not for their comparatively gigantic bulk, much elevated scutellum, &c. I should have placed them in that genus; they exceed by 2 lines the largest species of Ichneumon described by Gravenhorst, excepting *Ic. laminatorius*, which belongs to a section with black abdomen.

I possess one example from Francillon's collection, a 2nd from Marsham's, and a 3rd from Haworth's; and Mr. Newman has 1 taken by himself at Birch wood.

### GENUS XLIX.—ALOMYA, *Panzer*.

*Antennæ* of the male setaceous, porrect; of the female short, stout, filiform, convoluted, with about 32 joints; *head* small, somewhat globose, seen from above rather quadrate, the face with a slightly elevated tubercle: *eyes* oval: *thorax* somewhat cylindric-globose: *scutellum* 3-angular, flattish: *wings* moderate; *cellule* 5-angular: *abdomen* petiolated, convex, elongate, a little dilated at the apex in the male, more so in the female: *ovipositor* concealed: *legs* moderate, short, and rather thickened in the female: sexes dissimilarly coloured.

The chief characteristics of *Alomya* consist in the abdomen being convex and petiolated, the head small and globose, and the cellule large and 5-angular, not 3-angular, as stated in p. 126, from Gravenhorst: the sexes are very dissimilar, and in the female the wings are considerably abbreviated: the species are extremely prone to vary, and I am of opinion that all the supposed indigenous ones may be referrible to one species, notwithstanding their great dissimilarity.

Sp. 1. *ovator*. *Nigra, abdominis medio tibiisque rufo testaceis: fœmina antennis testaceo annulatis*. (Long. corp.  $5\frac{1}{2}$ —8 lin.; Exp. Alar. ♂ 7—10 lin.; ♀ 5—8 lin.)

Ich. *ovator*. *Fabricius*.—Al. *debellator*. *Steph. Catal.* 350. No. 4455.—Al. *stercorator*. *Id.* 4456, *var.*—Al. *Victor*. *Curtis, v. iii. pl.* 120, *var.*—*Steph. Catal.* No. 4460, *var.*

Black: antennæ of the male black, of the female with about the 3rd to 14th or 16th joints rusty or testaceous; abdomen of the male with the basal segment generally black, its apex sometimes testaceous-red or tawny, 3 following all



tawny, remainder black, the base and apex of the 3rd and 4th occasionally black, and sometimes a rounded spot of that colour on the back of all, combined with black edges to the 3rd and 4th; of the female broader, the basal segment black, with its apex always, and sometimes the base, red, 2nd to 4th generally dull red, the last sometimes with an obscure dorsal spot, 5th red with the margin black, or black with the base and sides red, but rarely wholly red; 6th rarely with the sides red; legs tawny, with the coxæ and trochanters black, 4 anterior femora tawny, with the base more or less black, rarely entirely black or tawny; posterior femora black, with the tibiæ yellow or testaceous, the apex at times fuscous: in the female the legs are rather of a darker hue, but in both sexes they vary in colour; wings somewhat hyaline.

Not uncommon, in June and July, in various parts of the country; it occurs within the metropolitan district, also in the New Forest, in Devonshire, Norfolk, Salop, near Dover, &c.

Sp. 2. *semiflava*. *Nigra, segmentis 2-4 tibiisque flavis*. (Long. corp. 7—8½ lin.; Exp. Alar. ♂ 8—11 lin.)

Al. *semiflava*. *Steph. Nomen. 2d edit. Gen. 719. 2.*

Black: thorax with a faint yellowish dot at the base of the wings; abdomen with the 1st segment black at the base, yellow at the apex, 2nd to 4th bright clear yellow, remainder black; legs moderate, coxæ and trochanters black, 4 anterior fuscous; tibiæ and tarsi yellow, the base of the former more or less black, especially of the 2nd pair; hinder femora black; tibiæ light yellow; tarsi fuscous; wings hyaline; cellule 5-angular.

The basal angles of the 5th segment are sometimes yellow.

Found in the vicinity of London in June: also near Bristol.

Sp. 3. *nigra*. *Nigra, sericea, femoribus anticis tibiisque fulvis*. (Long. corp. 6—8 lin.; Exp. Alar. ♂ 11—14 lin.)

Al. *nigra*. *Gravenhorst, ii. 405.—Steph. Nomen. 2d edit. Gen. 719. 3.*

Black, silky: legs with the coxæ and trochanters black, anterior femora tawny, sometimes black at the base, middle entirely tawny or totally black, or tawny with the base black, posterior black; 4 anterior tibiæ tawny, middle occasionally a little dusky at the apex, posterior red or testaceous, with the base and apex blackish or fuscous, with the opposite side rusty before the tip; tarsi tawny, anterior sometimes red, middle occasionally fuscous, and posterior at times fuscous; wings smoky-hyaline, stigma tawny; cellule 5-angular. Female unknown.

Of this conspicuous insect the female appears to be unknown, notwithstanding the species occurs throughout the country, and not uncommonly: it is found in various places throughout the metropolitan district; also in the New Forest, in Devonshire, Salop, the vicinity of Edinburgh, &c. in June and July.

GENUS L.—HOPLISMENUS, *Gravenhorst*.

*Antennæ* rather slender, of the male porrect, of the female curved, a little compressed and dilated towards the apex, and consisting of about 40 joints: *head* short, rather narrower than the thorax, and straightened towards the neck: *eyes* oval: *thorax* gibbous, generally armed with an acute spine on each side of the metathorax: *scutellum* 4-angular, or somewhat 3-angular: *abdomen* petiolated, convex, oblong, the apex acute, the basal segment with 2 elevated longitudinal lines, continued on the peduncle, which is linear and rather long: *ovipositor* a little exserted, short: *legs* rather slender.

Hoplismenus, as the name implies, embraces several species which have the metathorax armed with 2 rather elongate acute spines, or tubercles; the abdomen is also oblong, the basal segment has 2 elevated lines, the ovipositor is exserted, but short; the cellule is 5-angular; the legs and antennæ rather slender, the latter, in the females, somewhat compressed and dilated towards the apex: the species appear to be rare in Britain.

Sp. 1. *perniciosus*. *Metathorace bispino, niger, scutello albo, abdomine femoribus tibiisque rufis, tibiis posticis proparte nigris: mas tarsis posticis, foemina antennis, annulo albo.* (Long. corp.  $3\frac{1}{4}$ — $5\frac{1}{2}$  lin.; Exp. Alar. 5—8 lin.)

Ho. *perniciosus*. *Gravenhorst*, ii. 413.—*Steph. Nomen*. 2d edit. Gen. 720. 1.

Black: inner orbits whitish or yellowish; antennæ of the male somewhat rusty beneath, of the female slender, with about the 9th to 14th joints white, the remainder black, with 1 or 2 of the basal joints rusty or red beneath; thorax with a dot beneath the wings, sometimes the upper edge of the neck, and a dot before the wings white; metathorax armed with 2 acute spines or tubercles; scutellum white; abdomen of the male of a dark chestnut, of the female pale chestnut or red, sometimes tawny, and the basal portion of the 1st segment occasionally black; ovipositor black; legs red, coxæ black, of the female at times red beneath, and the anterior pair in the male with a white dot; trochanters black, 4 anterior sometimes red beneath in the female; posterior femora occasionally with the apex black, their tibiæ black, with a reddish base, or red with a black tip; middle tarsi fuscous, with the 3 intermediate joints pale or whitish, posterior black, with the 2nd to 4th joints white, rarely ferruginous; wings somewhat hyaline; cellule 5-angular.

Taken in June at Darenth wood; and I believe my friend the Rev. G. T. Rudd has taken it near Kimpton.

Sp. 2. *albifrons*. *Metathorace bispino, niger, facie scutello et tarsorum posticorum annulo albis, abdomine nec non femoribus tibiisque anterioribus rufis.* (Long. corp.  $3\frac{1}{2}$ —4 lin.; Exp. Alar. 5— $7\frac{1}{2}$  lin.)



*Ho. albifrons.* *Gravenhorst*, ii. 417.—*Steph. Nomen*. 2d edit. *Gen.* 720. 2.

Black: face, mouth, frontal orbits, and sometimes part of the external ones, whitish or ochreous; mandibles black at the base; antennæ beneath with the basal joint pale yellow, the 4 following dusky or tawny, the following rusty-tawny, the terminal ones fuscous; thorax with the upper edge of the neck, a dot beneath, and frequently another before the wings, and the scutellum, whitish; abdomen chestnut-red, the peduncle and occasionally the basal segment black; legs with the 4 anterior femora and tibiæ red, the former sometimes dusky towards the base, and the tibiæ whitish within; coxæ and trochanters black, the first sometimes with a whitish spot beneath; posterior legs black, the femora occasionally chestnut at the base; tarsi fuscous, the 2 hinder pair darker, with the intermediate joints pale or whitish; wings smoky-hyaline; cellule 5-angular, with the vestige of a divisional nervure.

Scarce: taken in the vicinity of London in June.

#### GENUS LI.—CRYPTUS, *Fabricius*.

*Antennæ* in general long, slender, porrect in the males, more or less curved in the females, sometimes a little thickened and short; *head* short, transverse, rather narrower than the thorax, and narrowed towards the neck: *eyes* ovate, more or less prominent: *thorax* somewhat gibbous, rarely cylindric: *scutellum* more or less convex, 3-angular, with the apex obtuse, or 4-angular: *wings* moderate; cellule 5- or 4-angular: *abdomen* petiolated, of the male slender and narrow, of the female ovate or oblong, the basal segment smooth and bent, and the apex at times faintly compressed: *ovipositor* exerted, straight, sometimes as long as the body, for the most part about half the length: *legs* rather slender and long, especially the posterior pair.

This rather extensive genus may be distinguished by having the abdomen of the male narrow and elongate, of the female ovate or oblong, the ovipositor considerably exerted, and in some species as long as the abdomen; the basal segment is smooth and arched, the peduncle rather long, the cellule 5- or somewhat 4-angular, and the legs and antennæ slender and long: the sexes are somewhat dissimilar, and, as usual in this difficult family, many of the species are known of one sex only; in some cases only males, in others only females, and occasionally one or other of them in plenty, so that it is not improbable that in some instances the sexes are more dissimilar than suspected.

##### § I. *Scutellum* and *abdomen* black.

*Sp. 1. cyanator.* *Niger*, *abdomine nigro-subcæruleo, femoribus tibiisque rufis, harum posticis apicem versus nigris.* (Long. corp. 5—8 lin.; Exp. Alar. 7½—9½ lin.; Long. ovip. 2 lin.)

*Cry. cyanator.* *Gravenhorst*, ii. 442.—*Steph. Nomen. 2d edit. Gen. 721. 1.*

Black: head pubescent; antennæ of the male about half the length of the body, thicker than the female, in which sex they are nearly as long as the body, slender and curved at the tip; thorax pubescent, of the female frequently with a red dot beneath the wings; abdomen blue-black, of the male slender, 2nd to 6th segments of equal width, the 1st with a groove and pubescent; of the female as wide as the thorax, ovate, the basal segment pubescent; ovipositor shorter than the abdomen, black; legs rather elongate, red, coxæ pubescent, red, with the trochanters black, posterior tibiæ with the apex dusky or blackish; tarsi fuscous; wings smoky-hyaline; cellule 5-angular.

Larva feeds upon that of *Phragmatobia fuliginosa*, *Clisiocampa Neustria*, &c.

Not uncommon: found in the vicinity of London, at Ripley, Hertford, &c.

*Sp. 2. tarsoleucus.* *Niger, femoribus tibiisque rufis, tarsis posticis pallidioribus, facie pallide-maculatâ.* (Long. corp.  $4\frac{1}{2}$ — $7\frac{1}{2}$  lin.; Long. ovip. 3 lin.; Exp. Alar. 7—9 lin.)

*Ich. tarsoleucus.* *Schrank, Anst. 725.*—*Cry. tarsoleucus.* *Steph. Nomen. 2d edit. Gen. 721. 2.*

Black: male with the palpi rusty or fuscous, inner orbits and middle of the mandibles, and rarely the vertical ones and 2 facial dots ochreous, female with the inner orbits obsoletely whitish; thorax of the male at times with a yellow line before the wings; abdomen (of the male) sometimes bluish-black, with the extreme edge chestnut; ovipositor shorter than the abdomen; legs red, coxæ and trochanters black, the 3 or 4 anterior sometimes with a white dash beneath, and the apex of the hinder tibiæ occasionally blackish; posterior tarsi of the male with the basal joint rusty, paler or yellowish at the apex, the 2nd to 4th whitish, of the female the 2nd to 4th pale fulvous; wings rather hyaline, more obscure in the female; cellule 5- or 4-angular.

Larva subsists on that of *Achatia piniperda* and other cognate Noctuidæ.

Considerably more abundant than the foregoing in the vicinity of London, especially at Birch wood, Ripley, &c. in June.

*Sp. 3. moschator.* *Niger, tibiis anterioribus et femoribus fulvis; mas tarsorum posticorum articulis 2-4 albis.* (Long. corp. 3—5 lin.; Exp. Alar. 5—8 lin.)

*Ich. moschator.* *Fabricius, Mant. p. 266.*—*Steph. Nomen. 2d edit. Gen. 721. 3.*

Black: palpi fuscous, inner orbits mostly whitish; antennæ of the male shorter than the body, of the female very slender, considerably more so than in the male, curved; thorax with 2 more or less acute tubercles on the metathorax; abdomen of the male half the width of the thorax, linear-fusiform, the basal segment somewhat linear, of the female about as wide as the thorax, oblong-ovate, the basal segment a little dilated towards the apex; ovipositor about as long, or but little shorter than the abdomen, dull



chestnut; legs slender, elongate, 4 anterior red, coxæ and trochanters black; posterior black, femora red, tibiæ of the female either black with the base red, or red with the tip black; tarsi of the male with the 2nd to 4th joints white; wings rather smoky-hyaline; cellule 5- or somewhat 3-angular.

Found in the neighbourhood of the metropolis in June, and in Salop.

Sp. 4. *spiralis*. *Niger, femoribus tibiisque rufis, harum posticis apice nigro, areolâ interiore vestigio nervi dividendis; fœmina antennarum annulo albo.* (Long. corp.  $3\frac{1}{2}$ — $5\frac{1}{2}$  lin.; Long. ovip.  $2\frac{1}{2}$  lin.; Exp. Alar. 5—8 lin.)

Ich. *spiralis*. *Fourcroy, Ent. Par. 407.*—Cr. *spiralis*. *Steph. Nomen. 2d edit. Gen. 721. 4.*

Black: mouth of the male occasionally pale; female with the inner, and sometimes the outer, orbits faintly whitish; antennæ shorter than the body, of the female more slender than in the male, curved, with the 7th to 11th joints, or most of them, white above; thorax with 2 acute tubercles on the metathorax, most prominent in the female, in which sex there is occasionally a yellow dot beneath the wings; abdomen of the male narrower than the thorax, somewhat fusiform, petiolated and linear, the extreme edge of the 2nd and 3rd segments sometimes chestnut; of the female a little narrower than the thorax, oblong-ovate; ovipositor nearly as long as the abdomen; legs slender, red, coxæ and trochanters red, middle tarsi at times fuscous; posterior tarsi and apex of their tibiæ dusky or fuscous; wings smoky-hyaline; cellule 5-angular or somewhat 3-angular; internal cubital areolet with a rudiment of the divisional nervure.

Taken near London, towards the end of June, but rarely.

Sp. 5. *brachycentrus*. *Niger, pedibus rufis, cellulâ minutâ: mas facie, coxis trochanteribusque anterioribus, albis, coxis posticis nigris; fœmina annulo antennarum albo.* (Long. corp. 3—4 lin.; Long. ovip.  $1\frac{1}{2}$  lin.; Exp. Alar. 5—7 lin.)

Cry. *brachycentrus*. *Gravenhorst, ii. 457.*—*Steph. Nomen. 2d edit. Gen. 721. 5.*

Black: male with the mouth, face, and cheeks white, the tip of the mandibles fuscous; female with the palpi fuscous, labrum straw-coloured; antennæ of the male half the length of the body, the basal joint white beneath; of the female very slender, shorter than the body, curved at the tip, the 8th and 9th joints white above; abdomen slightly pedunculated, of the male sub-linear, the 2 basal segments a little dilated at the apex, 3rd to 7th of equal width, the last with an exserted conic appendage, of the female as broad as the thorax, ovate-fusiform, flattish on the back towards the apex, basal segment dilated towards the tip, 2nd to 7th transverse, faintly edged with whitish; ovipositor one-third the length of the abdomen; legs slender, elongate, testaceous in the male, 4 anterior coxæ and trochanters white, hinder ones black, the tip of the trochanters red, tarsi and tibiæ fuscous, the latter somewhat testaceous beneath; of the female the legs are red,

coxæ and trochanters fuscous, hinder tibiæ and tarsi above fuscous ; wings hyaline, iridescent ; cellule somewhat 5- or 4-angular, the outer nervure occasionally rather obliterated in the female.

Found, but rarely, in the vicinity of London, in June.

Sp. 6. parvulus. *Cellulâ quadratâ, niger, pedibus rufis: mas femoribus tibiisque posticis apice nigris, tarsis posticis fuscis pallide annulatis; fœminæ antennarum annulo albo.* (Long. corp.  $2\frac{1}{2}$ — $3\frac{1}{4}$  lin.; Long. ovip. 2 lin.; Exp. Alar. 4— $6\frac{1}{2}$  lin.)

Cry. parvulus. *Gravenhorst*, ii. 459.—*Steph. Nomen. 2d edit. Gen. 721. 6.*

Black: female with the inner and frontal orbits white; antennæ shorter than the body, of the female curved at the tip, 7 basal joints fuscous or black, generally rusty beneath, 8th to 11th white, remainder dusky, or black; abdomen of the male occasionally narrower than the thorax, a little depressed, basal segment sublinear, 2nd and sometimes the 3rd with the margin reddish, 7th whitish above; of the female as broad as the thorax, oblong-ovate, slightly petiolated, the basal segment considerably dilated towards the apex, which is reddish, the 2nd with its extreme margins chestnut, the 7th generally whitish on the back; ovipositor about as long as the abdomen; legs red, anterior coxæ in the female sometimes fuscous; posterior legs in the male with the tips of the femora and tibiæ black; tarsi black, with the 2nd and 5th white at the base; wings somewhat hyaline; cellule 4-angular.

Found in June near London.

Sp. 7. anatorius. *Niger, pedibus rufis, coxis anticis nigris, annulo antennarum albo, cellulâ 5-angulari.* (Long. corp. 3— $4\frac{1}{4}$  lin.; Long. ovip.  $3\frac{1}{2}$  lin.; Exp. Alar. 5— $7\frac{1}{4}$  lin.)

Cry. anatorius. *Gravenhorst*, ii. 460.—*Steph. Nomen. 2d edit. Gen. 721. 7.*

Black: antennæ about half the length of the body, involuted at the tip, about the 8th to 12th joints snowy-white, remainder generally rusty beneath; abdomen as broad as the thorax, oblong-ovate, a little compressed and petiolated, the basal segment slightly channelled, the anterior portion quadrate, the apex dilated, 7th with a pale spot; ovipositor as long as the abdomen, chestnut, its valves black; legs moderate, red, anterior with the coxæ and trochanters black, sometimes red beneath, middle coxæ either red or black, chestnut beneath, posterior generally with the tarsi and tip of the tibiæ dusky, the apex of the femora fuscous, and the trochanters occasionally black; wings rather smoky-hyaline; cellule more or less 5-angular.

Not common: taken in June near London, and in Salop.

Sp. 8. furcator. *Niger, pedibus rufis, posticorum tarsis tibiisque fuscis, antennis albo annulatis; cellulâ 4-angulari.* (Long. corp. 4—5 lin.; Long. ovip. 2 lin.; Exp. Alar. 6— $8\frac{1}{2}$  lin.)

Cry. furcator. *Gravenhorst*, ii. 462.—*Steph. Nomen. 2d edit. Gen. 721. 8.*

Black: antennæ with the 9th to 12th joints white; abdomen as wide as the



thorax, the basal segment deeply channelled and slightly petiolated, the peduncle a little dilated towards its apex; ovipositor as long as the abdomen; legs red, hinder tarsi and tibiæ fuscous, the latter internally rusty or red; wings smoky-hyaline; cellule 4-angular.

Taken in the vicinity of London, in June.

Sp. 9. subpetiolatus. *Niger, pedibus rufis, antennis albo annulatis; cellula 4-angulari.* (Long. corp. 4—5 lin.; Long. ovip.  $2\frac{1}{2}$  lin.; Exp. Alar. 6—7 lin.)

Cry. subpetiolatus. *Gravenhorst*, i. 699.—*Steph. Nomen. 2d edit. Gen.* 721. 9.

Black: palpi pale fulvous; antennæ slender, half as long as the body, curved at the tip, dusky-black, the 10th and 11th joints white above; abdomen as wide as the thorax, opaque, the basal segment with a short broad flattish and channelled peduncle, the 2nd longer than broad, 2 following somewhat quadrate, remainder transverse, rather narrower and obtuse; ovipositor longer than the body, red, smooth, pilose; legs slender, red, hinder tarsi and outer edge of the tibiæ fuscous; wings rather smoky-hyaline; cellule 4-angular.

Found, but rarely, in June, near London; also in Salop.

Sp. 10. grisescens. *Niger, griseo-sericeus, femoribus tibiisque rufis, tarsis posticis fuscis, articulis 3 et 4 subalbis, annulo antennarum albo.* (Long. corp. 4—5 lin.; Exp. Alar.  $4\frac{1}{2}$  lin.)

Cry. grisescens. *Gravenhorst*, ii. 464.—*Steph. Nomen. 2d edit. Gen.* 721. 10.

Black: antennæ scarcely so long as the body, porrect, the apex a little curved, about the 14th to 17th joints white above; abdomen rather narrow, the basal segment more or less distinctly channelled, somewhat linear, 2nd to 5th rather broader, the extreme margins of the 2nd and 3rd occasionally chestnut, and the sides of the latter reddish; legs slender, red, coxæ and trochanters, and sometimes also the posterior knees black, the hinder tarsi and apex of the tibiæ dusky, with the 3rd and 4th joints of the femora white; wings hyaline; cellule somewhat 4-angular or 5-angular.

Found near London, but rarely, in June.

## § II. *Scutellum* pale; *abdomen* black.

Sp. 11. viduatorius. *Niger, femoribus tibiisque rufis; harum posticis apice nigro: mas facie et coxis anterioribus albomaculatis; fœmina annulo albo antennarum.* (Long. corp. 3—5 lin.; Exp. Alar.  $5-7\frac{1}{2}$  lin.; Long. ovip.  $1\frac{3}{4}$  lin.)

Cry. viduatorius. *Fabricius*.—*Steph. Nomen. 2d edit. Gen.* 721. 11.

Black: male with the inner orbits, a spot on the face and another on the clypeus, the palpi and the mandibles yellow, the last black at the tips; female with the inner and at times the outer orbits faintly yellowish, labrum reddish, palpi fuscous; antennæ of the male rather shorter than the body, the basal joint whitish beneath; of the female half the length of the body, very slender, incurved at the tip, the 6th to about the 10th joints white,

fuscous beneath ; metathorax with 2 rather acute spines ; scutellum with a whitish-yellow spot ; abdomen sometimes with the extreme edge of the 2nd segment chestnut ; ovipositor rather shorter than the abdomen, chestnut ; legs slender, stoutest in the female, red ; coxæ and trochanters black, the 4 anterior of the male with a white spot beneath ; hinder tarsi red, the apex of their tibiæ blackish, the femora with 3 or 4 of the joints rusty or reddish ; wings more or less hyaline ; cellule 3- or somewhat 3-angular.

Taken, but not very commonly, in the vicinity of London, in June ; found also in Salop.

Sp. 12. *cinctorius*. *Niger, ano albo, pedibus rufis, metathorace bispino, antennis subclavatis*. (Long. corp. 3—4 lin. ; Long. ovip.  $1\frac{1}{4}$  lin. ; Exp. Alar. 5—6 lin.)

Cry. *cinctorius*. *Fabricius*.—Ich. ? *cinctorius*. *Steph. Catal.* 350. No. 4453. Black, slightly sericeous : palpi red ; antennæ rather above half the length of the abdomen, a little thickened towards the apex, the 3rd to 10th joints rusty beneath, the remainder black ; metathorax with 2 spines ; abdomen oblong-ovate, the 2nd segment sometimes with the edge chestnut, the 7th white above ; ovipositor about half the length of the abdomen, red ; legs slender, red, the hinder tarsi fuscous ; wings slightly hyaline ; cellule rather large, 4-rate.

*Fabricius* described this species as a British insect in his *Systema Entomologia*, published in 1793.

Found, but rather uncommon, near London : taken also in Devonshire, the New Forest, &c. in June.

§ III. *Scutellum* with pale marks ; *abdomen* red, or red and black.

Sp. 13. *arrogans*. *Niger, abdominis medio, nec non femoribus tibiisque anterioribus et posticarum basi, rufis, orbitis oculorum internis, articulisque 3 et 4 tarsorum posticorum, albis*. (Long. corp.  $4\frac{1}{2}$ — $5\frac{1}{4}$  lin. ; Exp. Alar. 6— $7\frac{1}{2}$  lin.)

Cry. *arrogans*. *Gravenhorst*, ii. 494.—*Steph. Nomen*. 2d edit. Gen. 721. 13. Black : palpi fuscous ; mandibles and labrum whitish, facial and part of the external orbits white ; antennæ porrect, as long as the body, the basal joint white beneath : the extreme tip of the scutellum white ; abdomen with the basal segment black, the apex generally red, 2nd to 4th red, the margin of the latter sometimes black ; remainder black, the 5th sometimes fuscous, with the sides red ; legs elongate, slender, 4 anterior red, coxæ and trochanters black, the middle femora sometimes black towards the base, their tarsi fuscous ; posterior legs black, the extreme base and apex of the femora red, tibiæ either black with the base red, or red with the apex alone black, their tarsi with the 3rd and 4th joints entirely red, the apex of the 2nd white ; wings smoky-hyaline ; cellule 3-angular, or somewhat 5-angular.

Not very common : taken near London in June.

Sp. 14. *assertorius*. *Niger, abdomine, femoribus, tibiis tarsisque rufis, horum*



*posticis annulo albo, orbitis oculorum internis, annulo antennarum, punctisque ad alarum radicem, albis.* (Long. corp. 3—4 lin.; Long. ovip. 1 lin.; Exp. Alar. 5—6½ lin.)

Ich. assertorius. *Fabricius, Ent. S. ii. 140.*—Cr. assertorius. *Steph. Nomen. 2d edit. Gen. 721. 14.*

Black: inner orbits, and spot on the labrum, and sometimes on the clypeus, whitish-yellow; antennæ slender, scarcely so long as the body, incurved at the tip, about the 9 basal joints black, rusty beneath, the 3 or 4 following white; thorax with an ashy pile, the upper edge of the male, and often the lateral one, a spot before, and another beneath, the wings, yellow; scutellum and a line below white; abdomen ovate, red, the 7th segment sometimes black; ovipositor about half the length of the abdomen; legs slender, red, coxæ and trochanters black, the hinder femora and the tips of the tibiæ blackish, the 2nd and 3rd joints, or the 2nd only, or merely its base, whitish; claws all black; wings somewhat hyaline; cellule 5-angular.

Taken, in June, near Hertford.

Sp. 15. *sedulus.* *Niger, abdomine, femoribus anterioribus tibiisque rufis, harum posticis apice nigro, annulo antennarum et orbitis internis oculorum albis.* (Long. corp. 3½—4 lin.; Long. ovip. 1 lin.; Exp. Alar. 5—7 lin.)

Cry. *sedulus.* *Gravenhorst, i. 701.*—*Steph. Nomen. 2d edit. Gen. 721. 15.*

Black: palpi whitish; inner and upper orbits faintly whitish; antennæ slender, curved, the 8th to 11th joints white, rusty-brown beneath; thorax with a streak before the wings, most distinct towards the neck, a line below the scutellum, and the scutellum, white; abdomen entirely red; ovipositor half the length of the abdomen, red, with the sheaths black; legs slender, 4 anterior red, coxæ and base of the trochanters black, posterior black, the extreme base of the femora red, tarsi and tibiæ red, the latter black at the tip; wings smoky-hyaline; cellule 5-angular.

Found at Darenth wood in June: taken also in Salop.

Sp. 16. *rufiventris.* *Niger, abdomine pedibusque rufis, coxis fuscis, picturis capitis et thoracis, nec non annulo antennarum, albis.* (Long. corp. 3 lin.; Long. ovip. 1 lin.; Exp. Alar. 5½ lin.)

Cry. *rufiventris.* *Gravenhorst, ii. 497.*—*Steph. Nomen. 2d edit. Gen. 721. 16.*

Black: labrum straw-coloured; clypeus short, orbits all white; face with a whitish tubercle; antennæ with from about the 8th to 11th joints white; thorax with the upper and lateral margins of the collar, a line before, and a streak beneath, and also below the scutellum, and frequently 2 minute dots under the latter, and also a dot on the sides of the metathorax, and the scutellum white; abdomen oblong-ovate, chestnut-red, petiole generally fuscous; ovipositor nearly as long as the abdomen, chestnut; legs chestnut-red, anterior coxæ black, 4 posterior fuscous or brown; wings smoky-hyaline; cellule 5-angular.

Found, in June, in the vicinity of London.

Sp. 17. apparitorius. *Niger, abdomine femoribus et tibiis rufis, harum posticis apicem versus nigris, annulo antennarum albo.* (Long. corp. 4—4½ lin. ; Long. ovip. 1 lin. ; Exp. Alar. 6—7½ lin.)

Ich. apparitorius. *Villers, Ent. iii. 143.—Steph. Nomen. 2d edit. Gen. 721. 17.*

Black : inner orbits very faintly, and outer ones, with sometimes a dot on the clypeus, whitish ; antennæ half as long as the body, the tip curved, the 8th to 11th joints white ; scutellum white ; abdomen ovate, chestnut, or red, petiole black, or fuscous ; ovipositor rusty, as long as the abdomen ; legs red, coxæ and trochanters black, posterior tarsi and tibiæ fuscous, the latter reddish at the base, and sometimes entirely red, their tarsi with the 3rd and 4th joints palish ; wings rather smoky-hyaline ; cellule 5-angular.

Taken at Coombe wood, in June ; also in other places within the metropolitan district.

Sp. 18. tuberculatus. *Metathorace subbispino, niger, abdomine femoribus et tibiis rufis, antennarum annulo albo.* (Long. corp. 4 lin. ; Long. ovip. 1½ lin. ; Exp. Alar. 6½ lin.)

Cry. tuberculatus. *Gravenhorst, ii. 501.—Steph. Nomen. 2d edit. Gen. 721. 18.*

Black : inner and external orbits narrowly white ; antennæ with the 7th to 10th or 11th joints white above ; metathorax with 2 acute tubercles ; scutellum white at the apex ; abdomen red, the basal segment with 2 somewhat elevated lines, the sides of the petiole blackish ; ovipositor about one-third the length of the abdomen, chestnut ; legs red, coxæ and trochanters black, hinder tarsi fuscous ; wings smoky-hyaline ; cellule 5-angular.

Found, in June, in the neighbourhood of London.

Sp. 19. perspicillator. *Niger, facie albomaculatâ, segmentis 2-7, femoribus tibiisque anterioribus rufis, femoribus mediis basi nigrâ, tarsorum posticorum annulo albo.* (Long. corp. 5—6 lin. ; Exp. Alar. 4½—7½ lin.)

Cry. perspicillator. *Gravenhorst, ii. 503.—Steph. Nomen. 2d edit. Gen. 721. 19.*

Black : mouth, clypeus, cheeks, inner orbits, and frequently a spot on the face, resembling the letter V, sometimes united to the orbits, and occasionally broken, whitish-yellow ; antennæ rarely as long as the body, porrect, the basal segment whitish beneath ; thorax with a dot below the wings and a streak under the scutellum yellowish ; scutellum white at the tip ; abdomen oblong, narrow, the basal segment smooth, black, somewhat linear, the tip usually chestnut, the remainder red, the base of the 2nd often black ; legs elongate, 4 anterior tawny-red, coxæ and trochanters black, more or less spotted beneath with white or reddish, or with the tips red ; middle femora black at the base ; hinder legs black, the extreme base and apex of the femora often red, and also the base of the tibiæ ; tarsi with the 2nd to 4th joints entirely, and the base of the 5th, whitish ; wings hyaline ; cellule 5-angular, somewhat pyramidal.

Taken near London in June ; also in Salop.

Sp. 20. brevicornis. *Niger, segmentis 1-3 rufis, 6 et 7 albomarginatis, femo-*



*ribus tibiisque rufis, posticis apice nigris, tarsis posterioribus annulo albo.*  
(Long. corp.  $3\frac{1}{2}$ —4 lin. ; Exp. Alar. 5—7 lin.)

Cry. brevicornis. *Gravenhorst*, ii. 521.—*Steph. Nomen*. 2d edit. Gen. 721. 20.

Black: antennæ stoutish, about half the length of the body; thorax with a white streak beneath the scutellum, and the scutellum itself white; abdomen with the basal segment red, its petiole black, 2nd and 3rd red, following black, with the edges of the 6th and 7th white on the back; legs red, coxæ and trochanters black; middle tarsi fuscous, with the 2nd and 3rd joints white; posterior femora and tibiæ at the apex, and the latter at the base also black; tarsi black, with the 3rd and 4th and tip of the 2nd joints white; wings somewhat hyaline, iridescent; cellule 5-angular.

Found in July last at Hertford; taken also, but rarely, in other places within the metropolitan district.

Sp. 21. fugitivus. *Niger, abdomine rufo, apice nigro, ano albo: mas pedibus anterioribus rufis, coxis et trochanteribus albidomaculatis, tarsorum posticorum annulo albo; foemina femoribus rufis, anticis basin versus nigricantibus, tibiis anterioribus rufis.* (Long. corp. 3—4 lin.; Long. ovip.  $1\frac{1}{2}$  lin.; Exp. Alar. 5— $6\frac{1}{2}$  lin.)

Cry. fugitivus. *Gravenhorst*, ii. 515.—*Steph. Nomen*. 2d edit. Gen. 721. 21.

Black: palpi, inner orbits, and clypeus of the male white; antennæ slender, nearly as long as the body; of the male porrect, of the female curved at the tip, and with about the 8th to 11th joints white; thorax with a dot below the wings, and frequently a streak or 2 minute dots beneath the scutellum white; scutellum more or less white, generally so at the tip only in the female; abdomen of the male sublinear, a little dilated at the tip, of the female oblong-ovate; the basal segment black, with the tip red, 2nd to 4th red, the last more or less black in the female, the remainder black, with a white dot on the back of the 7th; ovipositor about half the length of the body, red; legs slender, elongate, red; coxæ and trochanters black, 4 anterior of the male white beneath, and the 4 anterior of the female more or less black at the base; hinder tibiæ black, red towards the base in the female; tarsi fuscous, hinder ones black, and of the male with the 2nd to 4th joints white; wings smoky-hyaline; cellule quadrate, or nearly so.

Common within the metropolitan district, in June and July; taken also in Salop.

Sp. 22. confector. *Niger, segmentis 1-3 tibiis anterioribus femoribusque rufis, puncto scutellari, ano annuloque tarsorum posticorum et antennarum, albis.* (Long. corp. 4 lin.; Long. ovip.  $2\frac{1}{4}$  lin.; Exp. Alar.  $7\frac{1}{4}$  lin.)

Cry. confector. *Gravenhorst*, ii. 518.—*Steph. Nomen*. 2d edit. Gen. 721. 22.

Black: antennæ slender, rather shorter than the body, curved at the tip, the 8th to 11th joints white above; scutellum with a dot at the apex; abdomen rather narrower than the thorax, ovate-fusiform, the basal segment red, petiole black, 2nd and 3rd red, remainder black, with a white dot on the

back of the 7th; ovipositor as long as the abdomen, pale red; legs slender, long, coxæ and trochanters black, femora red, 4 anterior tibiæ also red, posterior dusky-black, internally brown, with the base red, tarsi fuscous, posterior brown-black, with the 3rd and 4th joints white; wings smoky-hyaline; cellule quadrate.

Taken, in June, near London.

Sp. 23. *leucotarsus*. *Niger, abdomine rufo, pedum anteriorum tibiis femoribus rufis, his externè obscuris, tarsis posticis annulo albo.* (Long. corp. 3—4½ lin.; Exp. Alar. 5—7 lin.)

Cry. *leucotarsus*. *Gravenhorst*, ii. 524.—*Steph. Nomen*. 2d edit. Gen. 721. 23.

Black: palpi and mandibles testaceous, the inner orbits generally faintly whitish; antennæ porrect, shorter than the body, and generally rusty beneath; thorax with a line below the scutellum, and frequently a dot beneath the wings, and also the tip of the scutellum white; abdomen rather narrower than the thorax, the basal segment black and smooth, petiole linear, its apex red, remainder chestnut-red, the 6th and 7th being slightly fuscous; legs moderately elongate, 4 anterior tawny-red, with the tibiæ paler, coxæ and trochanters black, whitish beneath, middle femora generally blackish without, their coxæ frequently of a dull chestnut, posterior black and silky, with the 2nd to 4th joints of the tarsi white; wings smoky-hyaline; cellule 5-angular.

Also found in June, near London.

Sp. 24. *quadrilineatus*. *Niger, abdomine rufo, femoribus tibiisque rufis, harum posticis apice nigris, picturis capitis et thoracis, annuloque tarsorum posticorum, albis.* (Long. corp. 4—6½ lin.; Exp. Alar. 5—8 lin.)

Cry. *quadrilineatus*. *Gravenhorst*, ii. 535.—*Steph. Nomen*. 2d edit. Gen. 721. 24.

Black: inner orbits, part of the outer and a dot on the face, with the middle of the mandibles, whitish; thorax with the upper edge of the neck, a dorsal spot, line beneath the wings, and dot before them, a dot below the scutellum, and 2 or 3 on the metathorax, whitish; scutellum white at the tip; abdomen red or chestnut, the petiole of the basal segment black, the 3rd to 7th segments at times blackish-chestnut; legs with the coxæ either brown with a black spot, or the 4 anterior black, the hinder pair black, with a chestnut spot; trochanters black; femora red; 4 anterior tibiæ red, yellowish within; posterior black, chestnut towards the base; tarsi fuscous, posterior black, the 2nd to 4th joints white, the base of the femora occasionally black; wings hyaline; cellule either 5-angular, or subquadrate.

Not common: found near London in June.

Sp. 25. *albatorius*. *Niger, segmentis 2-7 rufis, tibiis anterioribus femoribusque rufis, horum posticis basi nigris, facie, tarsis posticis, thoracis et coxarum anteriorum picturis, albis.* (Long. corp. 5—7 lin.; Exp. Alar. 7—9 lin.)

Ich. *albatorius*. *Villers, Ent.* iii. 156.—*Steph. Nomen*. 2d edit. Gen. 721. 25.

Black: face, outer and frontal orbits and mandibles ochreous, the tip of the



latter fuscous ; palpi dull rusty or ochreous, sometimes an oblique black line on each side of the face ; antennæ porrect, nearly as long as the body, the basal joint whitish beneath ; thorax, with the upper and lateral margins of the neck, a line before and another beneath the wings, and sometimes one beneath the posterior wings ochreous ; scutellum entirely or at the tip alone ochreous ; abdomen a little cylindric, rather compressed towards the apex, red, the basal segment black, somewhat linear, the tip red, the back of the 3 terminal segments sometimes fuscous ; legs elongate, 4 anterior red, coxæ and trochanters black, whitish or spotted with white beneath ; posterior with the coxæ and trochanters black, the femora red at the base, and more or less black at the tip ; tibiæ blackish ; tarsi dull white, with the 5th joint and base of the 1st blackish ; wings smoky-hyaline ; cellule 5-angular ; interior cubital areolet with a rudimentary divisional nervure.

Found near London and in Salop, in June.

Sp. 26. *leucostictus*. *Niger, segmentis 2-7 rufis, femoribus rufis, posticis basi nigrâ, tibiis rufis, posticis apice nigro, puncto infra alas, annulo tarsorum posticorum, picturis facie et coxarum anticarum albis.* (Long. corp.  $3\frac{1}{2}$ —4 lin. ; Exp. Alar. 5—7 lin.)

Cry. *leucostictus*. *Gravenhorst, ii. 538.—Steph. Nomen. 2d edit. Gen. 721. 26.*

Black : palpi pitchy ; inner and part of the external orbits, a dot on the face, the clypeus, and the mandibles white, the base and apex of the last black ; antennæ with the basal joint beneath white ; thorax with the upper margins of the neck and a spot beneath the wings white ; apex of the scutellum also white ; abdomen red, the basal segment black, the tip more or less distinctly red ; legs red, coxæ and trochanters black, anterior pair white beneath ; posterior femora, and sometimes also the 4 anterior, black at the base ; hinder tibiæ black, rusty towards the base, 4 anterior tarsi testaceous, posterior black, 2nd to 4th joints white, base of the former sometimes black ; wings smoky-hyaline ; cellule 3-angular, inner cubital areolet with the rudiment of the divisional nervure.

Taken at Coombe wood in June, and in other places near London.

Sp. 27. *pygoleucus*. *Niger, abdominis medio, tibiis anterioribus, femoribusque rufis, horum posticis apice nigro, maculâ anali, nec non tibiæ posticorum basi, albis.* (Long. corp. 3 lin. ; Exp. Alar.  $5\frac{1}{2}$  lin.)

Cry. *pygoleucus*. *Gravenhorst, ii. 540.—Steph. Nomen. 2d edit. Gen. 721. 27.*

Black : antennæ scarcely shorter than the body ; thorax with a streak beneath the scutellum, and frequently another below the wings white ; scutellum white at the tip ; abdomen slender, the basal segment black, whitish at the tip, 2nd black, red at the tip, 3rd and 4th red, frequently black at the base, remainder black, the 7th with a white or testaceous spot on the back ; legs moderate, 4 anterior tawny, coxæ and trochanters black, the apex of the last whitish, posterior black, femora red towards the base, tibiæ white at the base ; wings smoky-hyaline ; cellule somewhat 4-angular.

Found near London and in Salop, in June.

Sp. 28. subcinctus. *Niger, segmento 3-tio rufo, fasciâ nigrâ, 7-timo maculâ albâ, tibiis femoribusque rufis, posticis apice nigro.* (Long. corp. 4 lin.; Exp. Alar.  $6\frac{1}{2}$  lin.)

Cry. subcinctus. *Gravenhorst, i. 703.—Steph. Nomen. 2d edit. Gen. 721. 28.*

Black: antennæ porrect, a little shorter than the body; scutellum with a white dot at the tip; abdomen as narrow again as the thorax; basal segment black, flattish, sublinear, 2nd black, 3rd red with a central black fascia, 4th and 5th quadrate, black, 6th and 7th shorter and narrower, also black, the 7th having a white dorsal spot; legs slender, red; coxæ, trochanters, and tips of the hinder femora and tibiæ black, hinder tarsi fuscous; wings smoky-hyaline; cellule somewhat 4-angular.

Also taken near London, and in other places within the metropolitan district.

§ IV. *Scutellum* black; *abdomen* red, or red and black.

Sp. 29. Dianæ. *Niger, abdominis medio rufo, femoribus tibiisque rufis, posticis apice nigro: mas picturis capitis et annulo tarsorum posticorum albis; fœmina annulo antennarum albo.* (Long. corp. 4—5 lin.; Long. ovip.  $1\frac{1}{2}$  lin.; Exp. Alar. 7—8 lin.)

Cry. Dianæ. *Gravenhorst, ii. 545.—Steph. Nomen. 2d edit. Gen. 721. 29.*

Black: male with the inner orbits, a spot on the face, and another on the clypeus, the labrum, clypeus, and base of the mandibles white; female sometimes with the inner and vertical orbits very narrowly white; antennæ of the male with a white dot beneath the basal joint, of the female with about the 6th to 9th joints white above; thorax occasionally with a minute dot before the wings, another below, and a 3rd on the lateral edge of the collar white; metathorax with 2 moderately acute tubercles; abdomen with the basal joint red, black at its apex, 2nd and 3rd red, remainder black, the 3rd with the edge sometimes fuscous in the female, and the 4th often red in that sex; ovipositor shorter than the abdomen; legs red, coxæ and trochanters black, the anterior ones, and at times the middle trochanters beneath white in the male; the hinder femora occasionally tipped with black, and their tibiæ always fuscous or black at the apex, their tarsi fuscous, and in the male white, with the basal and apical joints black; wings smoky-hyaline; cellule 5-angular, or somewhat 3-angular.

Not uncommon, in the vicinity of the metropolis, in June and July.

Sp. 30. obscurus. *Niger, abdomine rufo basi nigrâ, tibiis anterioribus femoribusque rufis: mas tarsis posticis annulo albo.* (Long. corp. 4—8 lin.; Long. ovip. 2—3 lin.; Exp. Alar. 7— $9\frac{1}{2}$  lin.)

Ich. obscurus. *Gmelin, p. 2704.—Steph. Nomen. 2d edit. Gen. 721. 30.*

Black: palpi of the male fuscous or whitish, mandibles mostly with a whitish dot, labrum testaceous, sometimes an obsolete palish spot on the face, and another on the clypeus, the orbits white, interrupted on the occiput the



latter sometimes faintly whitish in the female, and the palpi rusty-brown; antennæ porrect, nearly as long as the body, the basal joint white beneath; of the female much more slender, shorter than the body, curved at the tip; thorax with a faint ochreous dot beneath the wings; metathorax with 2 rather acute tubercles: abdomen chestnut-red, of the male narrow, elongate-fusiform, of the female oblong-ovate, basal segment black, the apex more or less chestnut; ovipositor nearly as long as the abdomen, red, with black sheaths; legs long, slender, red, or tawny; coxæ and trochanters black, anterior of the female at times brown, and the anterior trochanters of the male occasionally with a whitish streak beneath, and the hinder femora of the same sex occasionally black at the base; hinder tibiæ fuscous, rusty at the base; their tarsi fuscous, 2nd to 4th joints of the female rusty, of the male white; wings more or less smoky-hyaline; cellule 5- or somewhat 3-angular.

Extremely abundant in the vicinity of London; found also in Devonshire, Salop, in Scotland, &c. in June and July.

Sp. 31. sponsor. *Niger, pedibus abdominisque rufis, petiolo, maculâ coxarum, tarsis posticis, apice tibiæ, nigris, antennarum annulo albo.* (Long. corp. 4—6½ lin.; Long. ovip. 2 lin.; Exp. Alar. 7—8½ lin.)

Ich. sponsor. *Fabricius*.—Cry. sponsor. *Steph. Catal.* 345. No. 4117.

Black: inner orbits obsoletely palish; antennæ half the length of the body, curved at the tip, the 8th to 11th joints, or some of them, white above; metathorax with 2 slight spines; abdomen ovate, chestnut-red, or brown-chestnut, the petiole, and occasionally the greater portion of the 1st segment, black; ovipositor about the length of the abdomen, legs rather slender, long, dull red, trochanters and coxæ black, the latter sometimes with a chestnut spot, or red with a black spot; hinder tibiæ tawny or chestnut, with the tip blackish; their tarsi generally rusty, with the basal joint fuscous; wings smoky-hyaline; cellule 5- or somewhat 4-rate.

Rare: taken near London and in Salop, in June.

Sp. 32. minator. *Niger, abdominis medio, tibiis anterioribus femoribusque rufis, orbitis oculorum internis albis: mas annulo tarsorum posticorum et picturis faciei albis; fœmina annulo antennarum albo.* (Long. corp. 2½—3½ lin.; Long. ovip. 2 lin.; Exp. Alar. 4—6 lin.)

Cry. minator. *Gravenhorst*, ii. 556.—*Steph. Nomen.* 2d edit. Gen. 721. 32.

Black: inner orbits of the female slightly palish, of the male white, with a spot on the face and on the clypeus, the labrum, palpi, and base of the mandibles the same; antennæ about the length of the abdomen, of the male porrect, with the 1st joint white beneath, of the female with about the 7th to 9th joints white; metathorax of that sex with 2 rather acute tubercles; abdomen of the male gradually incrassated to the 5th segment, of the female broader: basal segment black or dull chestnut, 2nd to 4th or 5th dull red, remainder fuscous; ovipositor about the length of the abdomen; legs red,

coxæ and trochanters black, anterior of the male with a white dot beneath, hinder tibiæ and tarsi fuscous, the last of the male with the 3rd and 4th joints whitish, and the femora above, in that sex, blackish; wings smoky-hyaline; cellule 5- or rarely 3-angular.

Not very common: taken, towards the end of June, in the neighbourhood of London, and in Salop.

Sp. 33. analis. *Niger, segmentis 2-4 rufis, tibiis anticis, seu anterioribus, rufis: foemina annulo albo antennarum.* (Long corp.  $2\frac{1}{2}$ —5 lin.; Long. ovip. 1 lin.; Exp. Alar.  $4-6\frac{1}{2}$  lin.)

Cry. analis. *Gravenhorst*, ii. 560.—*Steph. Nomen. 2d edit. Gen. 721. 33.*

Black: antennæ about half the length of the body, a little longer of the female, with about the 7th to 12th joints, or the most part of them, white; abdomen of the male elongate, of the female ovate, the basal segment black, its apex, especially in the female, red, 2nd to 4th red or chestnut, remainder black, the base of the 5th occasionally red; ovipositor about a sixth of the abdomen in length; legs moderate, a little elongated, most slender in the male, black, 4 or 2 anterior tibiæ red, and the 4 anterior femora more or less reddish at the tip, rarely wholly red; the hinder pair red at the base, and at times red beneath, and their tibiæ sometimes rusty towards the base, the 4 anterior tarsi red or fuscous, the middle ones occasionally with the 3rd and 4th joints whitish in the male, and the hinder pair usually with the 3rd and 4th joints, and occasionally the apex of the 2nd, whitish; wings somewhat hyaline; cellule 4-rate, or rather 5-angular.

Found at Coombe and Darenth woods in June; also in Salop.

Sp. 34. titillator. *Niger, segmentis 2 et 3, nec non apice 1-mi, rufis, tibiis anticis rufis: mas tarsis posticis annulo albo; foemina antennis alboannulatis.* (Long. corp.  $2\frac{1}{2}$ —5 lin.; Long. ovip. 1 lin.; Exp. Alar.  $4-5\frac{1}{2}$  lin.)

Ich. titillator. *Linné.*—Cry.? titillator. *Steph. Catal. 345. No. 4313.*

Black: antennæ slender, of the female with about the 9th to 12th joints whitish; abdomen of the male fusiform, of the female ovate; the basal segment generally red, with the petiole black, or rarely wholly black, 2nd and 3rd red, the latter sometimes black on the back at the tip, remainder black; ovipositor occasionally a 3rd part of the abdomen in length; legs black; 4 anterior femora beneath and more or less at the apex red, the anterior pair sometimes entirely red, posterior at the extreme base and apex rusty; anterior tibiæ rusty or red, middle pair black, sometimes entirely red, or red with the upper side and tip blackish, anterior tarsi fuscous or rusty at the base, middle pair fuscous, with the 2nd to 4th joints of the male generally white, posterior black, with the intermediate joints white, and occasionally so of the female; wings somewhat hyaline; cellule 4-rate, rather longer.

Found, not very rarely, in the vicinity of London, in June, and in Salop.



Sp. 35. obfuscator. *Niger, segmentis 2 et 3, nec non apice 1-mi, dilute rufis.*  
(Long. corp. 5 lin.; Long. ovip. 1 lin.; Exp. Alar.  $7\frac{1}{2}$  lin.)

Cry. obfuscator. *Gravenhorst, ii. 569.—Steph. Nomen. 2d edit. Gen. 721. 35.*  
Black: metathorax with 2 rather acute tubercles; abdomen with the apex of the basal segment red, the 2nd and 3rd testaceous-red, remainder black; legs moderate, the anterior tibiæ rusty-brown beneath; wings smoky-hyaline; cellule 4-rate.

Rare: taken in June near London.

Sp. 36. brachyurus. *Niger, segmentis 1-4 rufis, tibiis femoribusque rufis, posticis apice nigris, antennarum annulo et orbitis oculorum superioribus albis.*  
(Long. corp.  $2\frac{1}{2}$ —3 lin.; Long. ovip.  $\frac{3}{4}$ —1 lin.; Exp. Alar. 4—5 lin.)

Cry. brachyurus. *Gravenhorst, ii. 572.—Steph. Nomen. 2d edit. Gen. 721. 36.*  
Black: palpi pitchy; frontal and sometimes also the facial orbits ochreous; antennæ slender, curved at the tip, half the length of the body, about the 8th to 12th joints white, fuscous beneath, the 2nd to 5th sometimes rusty; thorax occasionally with 2 spots on the back, and a minute one beneath the wings, yellow; abdomen ovate, red, the 5th to 7th segments black, the basal one smooth; ovipositor about one third shorter than the body, chestnut; legs slender, red, coxæ and trochanters black, tips of the hinder femora, and sometimes of the tarsal joints black, or blackish; wings rather smoky-hyaline; cellule 5-angular.

Taken at Darenth wood, in June.

Sp. 37. bitinctus. *Niger, antennarum basi, segmentis 2-7, pedibusque rufis, coxis posticis nigris.* (Long. corp. 2— $2\frac{3}{4}$  lin.; Long. ovip.  $\frac{3}{4}$  lin.; Exp. Alar.  $3\frac{1}{2}$ —5 lin.)

Ich. bitinctus. *Gmelin, p. 2719.—Steph. Nomen. 2d edit. Gen. 721. 37.*

Black: palpi and sometimes the mandibles rusty; antennæ half the length of the body, curved, fuscous, with the base paler or rusty, and red beneath, the basal joint tawny; metathorax with 2 rather acute tubercles; abdomen oblong-ovate, dull red, the basal segment black, and the edges of the 6th and 7th sometimes obscurely yellowish; ovipositor above half the length of, or nearly as long as, the abdomen; legs moderate, red, posterior coxæ black or fuscous, rarely red, generally reddish at the tip, and the hinder tarsi mostly brownish; wings hyaline; cellule 5-angular, with the outer nervure occasionally faint.

Scarce: taken in June near London.

†Sp. 38. æreus. *Niger, basi antennarum, dorso segmentorum intermediorum, pedibusque rufo testaceis.* (Long. corp.  $2\frac{1}{2}$  lin.; Exp. Alar.  $4\frac{1}{2}$  lin.)

Cry. æreus. *Gravenhorst, ii. 578.—Steph. Nomen. 2d edit. Gen. 721. 38.*

Black: palpi straw colour, mandibles rusty, female with the face clothed with a silvery pile; antennæ slender, porrect, of the male as long as the body, of the female shorter, rusty towards the base, especially on the lower side, with the basal joint palest; abdomen oblong-ovate, broadest and longest in

the female, basal segment black, of the female with a testaceous dot at the tip, the following segment testaceous straw-colour on the back, and appearing transparent; the 5th and following sometimes totally black, with the extreme margins obsoletely testaceous; ovipositor one-third the length of the abdomen; legs slender, straw-colour, or reddish; posterior pair sometimes with the knees, and the tarsi and tibiæ, or the apex of the latter fuscous, or blackish; wings hyaline, iridescent; cellule 5-angular.

Rare: taken near Andover by the Rev. G. T. Rudd.

Sp. 39. *pellucidator*. *Niger, pedibus anterioribus, nec non segmentorum intermediorum dorso, testaceo-stramineis, segmento 1-mo lineari.* (Long. corp.  $2\frac{1}{2}$ —3 lin.; Exp. Alar. 4— $5\frac{1}{2}$  lin.)

Cry. *pellucidator*. *Gravenhorst*, ii. 581.—*Steph. Nomen. 2d edit. Gen. 721. 39.* Black: palpi white; antennæ slender, porrect, nearly as long as the body, totally black; abdomen elongate-clavate, rather depressed, the basal segment slender, linear, black, the lateral tubercles prominent; 2nd with a spot at the apex or margin, 3rd with the back entirely or in the middle, and occasionally the 4th also, pellucid-testaceous, reddish, or rusty; legs slender, 4 anterior straw-colour, posterior fuscous or black, rarely with the greater portion pale, the tip of the coxæ, the trochanters, and base of the femora straw-colour; the femora occasionally nearly all testaceous, and fuscous towards the apex; wings hyaline, iridescent; cellule 5-angular.

Taken in June within the metropolitan district.

Sp. 40. *incubitor*. *Niger, abdomine rufo, apice nigro, ano albo, pedibus rufis, posticis femorum apice tibiisque nigris, his basi albis, antennis 3-coloribus.* (Long. corp.  $2\frac{1}{2}$ — $3\frac{1}{4}$  lin.; Long. ovip.  $1\frac{1}{4}$  lin.; Exp. Alar. 4— $5\frac{1}{2}$  lin.)

Ich. *incubitor*. *Stroem. teste Gravenhorst*, ii. 591.—*Steph. Nomen. 2d edit. Gen. 721. 40.*

Black: antennæ rather slender, curved at the tip, half the length of the body, basal joint sometimes tawny, 2nd to 4th fulvous, occasionally pitchy beneath, 7th to 10th white, fuscous below, remainder also fuscous beneath; abdomen ovate, 1st segment red, petiole more or less black, 2nd and 3rd red, remainder black, the base or sides of the 6th reddish, the 6th and 7th more or less white at the tip; ovipositor scarcely half the length of the abdomen, red, with black sheaths; legs slender, red, 4 anterior sometimes with the trochanters fuscous, the apex of the hinder femora and the tibiæ black, the base of the last white; tarsi reddish or fuscous; wings hyaline; cellule subquadrate.

Scarce: found near London in June.

Sp. 41. *migrator*. *Niger, abdomine rufo, apice nigro, ano albo, apice femorum anticorum et latere altero tibiæ anteriorum rufis, tibiis posticis basi albis; fœmina antennarum annulo albo, femoribus posticis rufis apice nigro.* (Long. corp. 3— $4\frac{1}{2}$  lin.; Long. ovip.  $1\frac{1}{4}$  lin.; Exp. Alar. 5— $7\frac{1}{2}$  lin.)



Ich. migrator. *Fabricius, Syst. Ent.* 334.—Cry. migrator. *Steph. Nomen. 2d edit. Gen.* 721. 41.

Black: inner orbits generally slightly whitish, but very obsoletely so in the female; antennæ rather above half the length of the body, curved at the tip, of the female, and with about the 7th to 11th joints white, the 2nd to 4th occasionally rusty beneath; metathorax thickly and coarsely punctured; abdomen, of the male, somewhat linear, of the female ovate, red, the petiole dusky or black, the apex of the 4th segment and the remaining segments black, the 5th sometimes chestnut on the edge, and the 6th and 7th with a white dorsal spot; ovipositor about half the length of the abdomen; legs rather slender, 4 anterior with the coxæ and trochanters black, femora rusty, more or less black at the base, tibiæ red, fuscous without, and whitish at the base, tarsi reddish; posterior black, the coxæ of the female red, with a black spot, the femora red, with the tip more or less black, tibiæ black, with a white basal ring, tarsi fuscous, and sometimes with a whitish ring; wings hyaline, of the female sometimes with an obscure cloud on the disc; cellule 4-rate.

The legs vary somewhat in the colour of the respective parts, the red or the black more or less predominating, and occasionally the scutellum bears 1 or 2 minute whitish dots.

Larva feeds on that of *Spilosoma Erminea*, &c.

Abundant within the metropolitan district in June and July; also found in Salop, &c.

Sp. 42. *subguttatus*. *Niger, segmentis 1-4 rufis, tibiis femoribusque rufis, posticis apice nigris, orbitis internis oculorum, antennarum articulo 1-mo subtus, puncto infra alas, annuloque tarsorum albis.* (Long. corp. 4 lin.; Exp. Alar.  $6\frac{1}{2}$  lin.)

Cry. *subguttatus*. *Gravenhorst, ii.* 610.—*Steph. Nomen. 2d edit. Gen.* 721. 42.

Black: palpi, a spot on the mandibles, and the inner orbits white; antennæ porrect, shorter than the body, with the basal joint white beneath; abdomen somewhat fusiform, red, the basal segment deeply channelled, and the 5th to 7th black; legs rather slender, red, coxæ and trochanters black, 4 anterior with the 3rd and 4th joints of the tarsi white, posterior with the tip of the femora and of the tibiæ black; tarsi white, the 1st and 5th joints black; wings smoky-hyaline; cellule 5-angular, pyramidal.

Found near London in June, but very rarely.

Sp. 43. *peregrinator*. *Niger, abdomine rufo, ano albo, tibiis et femoribus rufis, posticis apice nigris, antennarum annulo albo.* (Long. corp. 2— $4\frac{1}{2}$  lin.; Long. ovip.  $2\frac{1}{2}$  lin.; Exp. Alar.  $3\frac{1}{2}$ —6 lin.)

Ich. *peregrinator*. *Linné.*—Cry. *peregrinator*. *Steph. Catal.* 345. No. 4316.

Black: antennæ slenderish, about half the length of the body, involuted at the apex, the 7th to 11th joints, or most of them, white; abdomen fusiform, or ovate-fusiform, the basal segment very smooth, red, with the petiole

dusky, 2nd and 3rd tawny-red, 4th mostly black, with the base and sides red or tawny, rarely wholly black or red, remainder black, the sides of the 5th occasionally red, and the 6th and 7th with the extreme edge whitish; legs moderate, red, coxæ and trochanters black, posterior with the tips of the femora and of the tibiæ black, tarsi dusky or blackish, the extreme base of the middle femora sometimes black, and the hinder femora occasionally entirely black; wings moderate, smoky-hyaline; cellule 5-angular, or 4-rate.

Common about London, on umbelliferous plants, in May and June; also taken in the New Forest, Salop, &c.

Sp. 44. *nubeculatus*. *Niger, abdomine rufo, apice nigro, ano albo, femoribus et tibiis anticis subtus testaceis, fœmina antennarum annulo albo.* (Long. corp. 4—5 lin.; Long. ovip.  $1\frac{1}{2}$  lin.; Exp. Alar. 6— $7\frac{1}{2}$  lin.)

Cry. *nubeculatus*. *Gravenhorst*, ii. 611.—*Steph. Nomen. 2d edit. Gen. 721. 44.*  
Black: inner orbits faintly pale; antennæ rather above half the length of the body, of the male porrect and a little thickened, of the female slender, curved, the 8th to 10th joints white, the basal one rusty beneath; metathorax deeply punctured, with 2 rather acute tubercles; abdomen of the male ovate-fusiform, basal segment red, with the petiole black; of the female ovate, thickened towards the apex; the basal segment smooth, red, 2 following chestnut, red in the male, 4th black, its base and limb red, or wholly so in the males, remainder black, the terminal ones more or less bordered with white, obscure in the females; ovipositor about half the length of the body; legs moderate, slightly elongated, black, anterior femora more or less testaceous beneath, posterior of the female dull chestnut interiorly; anterior tibiæ testaceous, dusky without, middle black, reddish within in the females, posterior in this sex rusty within towards the base: wings smoky-hyaline, of the female with an obscure cloud beneath the stigma; cellule 4-rate.

Taken in June within the metropolitan district: rare.

Sp. 45. *ornatus*. *Niger, segmentis 1-3 rufis, 7 dorso albo, pedibus rufis, posticis femorum et tiliarum apice nigris, antennis 3-coloribus.* (Long. corp. 3—4 lin.; Long. ovip.  $1\frac{1}{2}$  lin.; Exp. Alar. 5— $6\frac{1}{2}$  lin.)

Cry. *ornatus*. *Gravenhorst*, ii. 620.—*Steph. Nomen. 2d edit. Gen. 721. 45.*

Black: antennæ with the 3rd and 4th or 5th joints red, sometimes fuscous beneath, the 8—10 white above; abdomen with the 3 basal segments red or tawny, the petiole frequently black or fuscous at the base, the remainder black, with the back of the 7th white; ovipositor about half the length of the abdomen; legs red, posterior with the tip of the femora and of the tibiæ black, the extreme base of the latter fuscous, and sometimes the tibiæ are fuscous without, with a reddish ring towards the base; wings smoky-hyaline; cellule 4-rate, or somewhat 5-angular.

Not common: taken near London in June and July.



Sp. 46. erythrinus. *Niger, abdomine rufo, apice nigro, ano albo, pedibus rufis, antennis 3-coloribus.* (Long. corp. 3 lin.; Long. ovip.  $1\frac{3}{4}$  lin.; Exp. Alar.  $5\frac{1}{2}$  lin.)

Cry. erythrinus. *Gravenhorst*, ii. 621.—*Steph. Nomen. 2d edit. Gen. 721. 46.*

Black: antennæ curved, half the length of the body, thickish, the 5 basal joints red, the 4th and 5th above, and the 3 following fuscous, 4 or 5 next white, remainder fuscous; abdomen ovate-fusiform, red, the 5th to 7th segments black, the last 2 whitish on the margins; ovipositor as long as the abdomen; legs red, the extreme apex of the hinder tibiæ sometimes dusky; wings narrowish, smoky-hyaline; cellule 5-angular, somewhat pyramidate.

Taken, but not commonly, within the metropolitan district, in June.

V. *Scutellum* and part of the *thorax* red; *abdomen* red and black.

Sp. 47. minutorius. *Rufo-sanguineus, capite, coxis, trochanteribus et abdominis apice nigris, thorace femoribusque nigro maculatis, antennis 3-coloribus.* (Long. corp.  $2\frac{1}{2}$ — $3\frac{1}{4}$  lin.; Long. ovip.  $\frac{3}{4}$  lin.; Exp. Alar.  $4\frac{1}{2}$ —6 lin.)

Cry. minutorius. *Fabricius.*—*Steph. Catal. 346. No. 4321.*

Head black: orbits slightly, palpi, a dot on the mandibles, and another on the cheeks, straw-colour; antennæ shorter than the body, slender, a little curved at the apex, the 3 basal joints black, 4th to 8th, or most of them, rusty, 3 following white, remainder fuscous, or rusty; thorax bright red, the neck, breast, and margin red, the scutellum black; metathorax with 2 minute rather acute tubercles; scutellum blood-red; abdomen oblong-ovate, basal segment red, or red-chestnut, petiole generally black, 2nd and 3rd red, or chestnut-brown, the latter sometimes dusky on the back, remainder black; ovipositor about a third or half the length of the abdomen black; legs slender, rusty-red, coxæ and trochanters black, 4 anterior femora, more or less black on the convex side towards the base, posterior entirely black; hinder tibiæ generally dusky at the apex; wings somewhat smoky-hyaline; cellule 5-angular.

Not common: found in June at Darenth wood, and in other places within the metropolitan district.

Sp. 48. flagitator. *Abdominis basi rufo, apice albo, thorace rufo, maculâ pectorali et regione circa scutellum nigris, tibiis ferrugineis, posticis apice nigro, annulo antennarum albo.* (Long. corp.  $2\frac{1}{2}$  lin.; Long. ovip.  $\frac{3}{4}$  lin.; Exp. Alar. 5 lin.)

Ich. flagitator. *Rossi Mant. ii. App. 83.*—Cry. flagitator. *Steph. Nomen. 2d edit. Gen. 721. 48.*

Head black, with the clypeus and an obscure spot between the antennæ and eyes reddish; antennæ involuted at the apex, rather longer than half the body, 2nd to 4th joints rusty-red, 9th to 11th white, dusky beneath, remainder black; thorax red, the neck, a spot on the back, and the margins of the scutellum black; metathorax with 2 spines; scutellum red; abdomen

ovate, rather depressed, thickened towards the apex, black, the 1st segment and base of the 2nd red, the 6th and 7th with the membrane white above; ovipositor black, half the length of the abdomen; legs moderate, black, 4 anterior with the tarsi, tibiæ, and tip of the anterior femora rusty, posterior coxæ and trochanters above reddish, tibiæ rusty towards the base; wings somewhat smoky-hyaline; cellule 5-angular.

Rather scarce: taken in June near London.

Sp. 49. *Tyrannus*. *Segmentis 1 et 2 rufis, 5-7 albomarginatis, tibiis rufis, posticis apice nigro, thorace bispino rufo, annulo antennarum albo.* (Long. corp.  $2\frac{1}{2}$  lin.; Long. ovip.  $\frac{3}{4}$  lin.; Exp. Alar. 5 lin.)

Cry. *Tyrannus*. *Gravenhorst*, ii. 630.—*Steph. Nomen*. 2d edit. Gen. 721. 49.

Black: inner orbits reddish; antennæ curved, half the length of the abdomen, 3rd and 4th joints rusty-red, 8th to 10th white; thorax red, black round the scutellum, the latter red: metathorax with 2 acute spines; abdomen with the 2 basal segments red, the 2nd with a fuscous fascia, remainder black, the 3 terminal ones with the margins white; ovipositor nearly half the length of the abdomen; legs moderate, black, 4 anterior with the tips of the femora, and the tibiæ and tarsi red; posterior tibiæ red towards the base; wings smoky-hyaline; cellule 5-angular.

Also rare, and found in June near London.

Sp. 50. *Carnifex*. *Niger, abdominis basi, pedibus et metathorace rufis, ano albo, antennis 3-coloribus.* (Long. corp.  $4\frac{1}{2}$  lin.; Long. ovip.  $\frac{3}{4}$  lin.; Exp. Alar.  $6\frac{1}{2}$  lin.)

Cry. *Carnifex*. *Gravenhorst*, ii. 631.—*Steph. Nomen*. 2d edit. Gen. 721. 50.

Black: antennæ with the 3rd to 5th joints red, 9th to about the 11th white above; thorax either black, with the metathorax and sides of the prothorax below the wings red, or red, with the collar and back of the prothorax black; scutellum red; abdomen with the 3 basal segments red, remainder black, the 4th occasionally with the margins obsoletely red, and the 7th white on the back; ovipositor black, half the length of the abdomen; legs red, hinder tibiæ with the extreme tip blackish; wings rather smoky-hyaline; cellule 4-rate.

Scarce: taken within the metropolitan district in June.\*

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\* For additional descriptions of some species of this genus and of the following, contained in my collection, I must request the reader to refer to the Appendix, to be given at the end of the present volume; serious indisposition having prevented me from duly investigating them in time to insert in their respective places. It may be remembered that, including this sheet, I have already described 843 Hymenoptera, of which 503 are Ichneumonidæ.



GENUS LII.—PHYGADEUON, *Gravenhorst*.

*Antennæ* moderate, of the male porrect, longer and generally more slender than in the females, in which sex they are curved or involuted; in both sexes the basal joints are more or less elongated: *head* short, transverse, rather narrower than the thorax: *eyes* ovate, prominent: *thorax* slightly gibbous, or somewhat cylindric: *metathorax* occasionally with spines: *scutellum* more or less convex, 3-angular, with the apex a little obtuse: *wings* moderate: *cellule* 5-angular, rarely with the outer nervure obsolete: *abdomen* petiolated, of the male narrow, of the female oblong or ovate, slightly convex, or a little depressed, the basal segment generally smooth, in some species with 2 elevated lines, the petiole mostly obsoletely grooved: *ovipositor* exerted: *legs* moderate, sometimes a little thickened, at others rather slender.

Of this genus Gravenhorst remarks that it differs from *Cryptus* in having the antennæ, legs, and ovipositor moderate, the cellule 5-angular, the abdomen of the female oblong or ovate, of the male narrower, the 1st segment with the petiole longer and narrower than the anterior part, the surface smooth, &c.; to which may be added, the length of the basal joints of the antennæ, and these organs are in general longer and rather more slender in the males than in the females.

§ I. *Scutellum* and *abdomen* black.

Sp. 1. *flavimanus*. *Niger, pedum anteriorum tarsis tibiis et femorum apice testaceo-stramineis.* (Long. corp.  $2\frac{1}{4}$ — $2\frac{1}{2}$  lin.)

Phy. *flavimanus*. *Gravenhorst*, ii. 647.—*Steph. Nomen*. 2d edit. Gen. 722. 1.

Black: palpi pale fuscous, middle of the mandibles chestnut; inner orbits generally whitish; antennæ slender, porrect, as long as the body; abdomen a little depressed, the basal segment with 2 elevated lines, the lateral tubercles scarcely placed before the middle; legs moderate, 4 anterior testaceous-straw-colour, the femora entirely, or on their convex side, black; coxæ and trochanters black, the apex of the latter rusty-brown; posterior black, with the tips of the trochanters and of the femora, as well as the extreme base of the last, testaceous; tibiæ either obscure rusty-brown at the base, or totally red, with the apical spines rusty; wings rather smoky-hyaline, iridescent; cellule 5-angular.

Not common: found in the south of England in the beginning of summer.

§ II. *Scutellum* pale: *abdomen* black.

Sp. 2. *pumilio*. *Niger, metathorace bispino, abdominis medio, femoribus tibiisque rufis, tibiis posticis apice nigro, picturis faciei et lineâ infrâ scutellum albis.* (Long. corp.  $2\frac{1}{2}$ — $3\frac{1}{4}$  lin.; Exp. Alar. 4—6 lin.)

Phy. *pumilio*. *Gravenhorst*, ii. 653.—*Steph. Nomen*. 2d edit. Gen. 722. 2.

Black: inner orbits, and sometimes a transverse line on the clypeus and a dot on the face white; palpi whitish or fuscous; mandibles rusty-brown; antennæ porrect, half the length of the body, the basal joint whitish beneath; metathorax with 2 acute tubercles; scutellum white, a line beneath it whitish; abdomen narrower than the thorax, oblong, the basal segment slightly channelled, black, its apex testaceous, 2nd and 3rd testaceous-red, 4th the same, or fuscous with the edge chestnut, remainder black; legs rather slender, tawny, coxæ and trochanters, and the tip of the hinder tibiæ and tarsi, and also occasionally the base of the anterior femora, black; wings rather smoky-hyaline; cellule 5-angular.

Not common: found within the metropolitan district in June and July.

Sp. 3. *jucundus*. *Niger, abdominis medio rufo, femoribus tibiisque rufis, posticis pro parte nigris.* (Long. corp.  $2\frac{1}{2}$ —4 lin.; Exp. Alar. 4—6 lin.)

Phy. *jucundus*. *Gravenhorst*, ii. 658.—*Steph. Nomen*. 2d edit. Gen. 722. 3.

Black: inner orbits in general slightly whitish; mandibles dusky, or sooty; palpi pale straw-colour; antennæ porrect, shorter than the body, the basal joint reddish or dull ochreous beneath, the following reddish or dusky; thorax with a white dot below the scutellum, and the tip of the latter whitish; abdomen narrower than the thorax, its basal segment somewhat linear, and rather long and narrow, edged with red, 2nd to 4th red, the margin of the latter occasionally black, 5th black, with the edge chestnut, or at times totally red, remainder black; legs moderate, 4 anterior red, coxæ and trochanters black, posterior with the coxæ, trochanters, and femora black, the base of the latter red; tarsi and tibiæ black, the base of the last red or fuscous, with the apical spines whitish; wings somewhat hyaline, cellule 5-angular.

Not very uncommon, in the neighbourhood of the metropolis, in June.

Sp. 4. *larvatus*. *Niger, picturis faciei et scutelli, nec non trochanteribus coxisque anterioribus, albis, abdominis medio femoribus tibiisque rufis, harum posticis apice nigris.* (Long. corp. 4 lin.; Exp. Alar. 7 lin.)

Phy. *larvatus*. *Gravenhorst*, ii. 622.—*Steph. Nomen*. 2d edit. Gen. 722. 4.

Black: mouth, clypeus, a spot on the face, and inner orbits broadly white; antennæ porrect, shorter than the body, and stoutish, the basal joint white beneath; thorax slightly clothed with a griseous pile, with a white dot before, and another beneath, the wings; scutellum with 2 white dots; abdomen rather narrower than the thorax, the basal segment black and finely channelled, its margin red, 2nd to 4th red, the edge of the last black, remainder black; legs moderate, anterior pale red, coxæ and trochanters whitish, the middle coxæ black at the base; posterior coxæ black, trochanters black, red at the base, femora and tibiæ red, black at the tip, tarsi brown-black; wings smoky-hyaline; cellule 4-rate.

Found, not commonly, within the metropolitan district, in June.



§ III. *Scutellum* black; *abdomen* either wholly red, or red and black.

Sp. 5. *exiguus*. *Niger*, *antennarum basi pedibus abdomineque testaceis, segmento 1-mo nigro*. (Long. corp. 2 lin.; Exp. Alar.  $3\frac{1}{2}$  lin.)

Phy. *exiguus*. *Gravenhorst*, ii. 666.—*Steph. Nomen*. 2d edit. Gen. 722. 5.

Black: palpi whitish; mandibles with a red dot; antennæ rusty towards the base, the 1st joint testaceous beneath; metathorax with 2 rather acute tubercles; abdomen ovate, depressed, as wide as the thorax, testaceous straw-colour, the basal joint black and somewhat linear, 2nd to 4th with the sides fuscous; ovipositor about the 5th part of the abdomen in length; legs moderate, straw-coloured, posterior tarsi and the extreme apex of the tibiæ fuscous; wings smoky-hyaline, iridescent; cellule 5-angular.

Taken, not rarely, in June, near Hertford, and in other places within the metropolitan district.

Sp. 6. *ovatus*. *Niger*, *metathorace subbispino, segmentis 2 et 3, antennarum basi pedibusque rufis, horum posticis apice femorum et tibiæ nigris*. (Long. corp.  $2\frac{1}{2}$ —3 lin.; Exp. Alar.  $3\frac{1}{2}$ —5 lin.)

Phy. *ovatus*. *Gravenhorst*, ii. 668.—*Steph. Nomen*. 2d edit. Gen. 722. 6.

Black: mouth red; antennæ with the 1st to 7th or 8th joints, or some of them, red; metathorax with 2 rather acute spines; abdomen as wide as the thorax, ovate, the basal segment channelled and black, 2nd and 3rd red, remainder black, 6th and 7th with the margins slightly white; ovipositor about one-third the length of the abdomen; legs red, posterior with the tips of the femora and of the tibiæ black, tarsi fuscous; wings smoky-hyaline; cellule 5-angular.

Found near London in June, not common.

Sp. 7. *quadrispinus*. *Niger*, *metathorace 4-2 spino, segmentis 2 et 3 rufis, femoribus tibiisque rufis, posticis summo apice nigris: mas facie et coxis anterioribus albomaculatis; foemina antennarum annulo albo*. (Long. corp 3—4 lin.; Exp. Alar. 5—8 lin.)

Phy. *quadrispinus*. *Gravenhorst*, ii. 674.—*Steph. Nomen*. 2d edit. Gen. 722.—*Cry. quadridentatus*. *Steph. Catal.* 345. No. 4115.

Black: male with the mouth, clypeus, a spot on the face, and the inner orbits ochreous or white; antennæ porrect, half the length of the body, the basal joint beneath white or ochreous; of the female involuted, scarcely half the length of the body, about the 7th to 11th joints whitish above, with a fuscous dot beneath; metathorax very rugose, with 4 acute tubercles, the 2 upper ones most robust and acute, the other shorter and at times rather obsolete; abdomen ovate, of the female as wide as the thorax, of the male narrower, the basal segment aciculated, with 2 elevated lines, entirely red, or in some males with the petiole black, the latter short and broad, 2nd red, smooth in the females, aciculated at the base in the males, 3rd also red, often with the margin black, remainder black, the edges of the 6th and 7th glaucous-white; ovipositor scarcely a fourth of the abdomen in length; legs

moderate, red, coxæ and trochanters black, 4 anterior white beneath in the male, posterior with the tarsi and tips of the femora and of the tibiæ black; wings hyaline; cellule 5-angular.

This beautiful insect occurs in plenty in the vicinity of London in June; it is also found in the New Forest, in Salop, Scotland, &c.

Sp. 8. *curvus*. *Niger, abdominis medio, tibiis anterioribus, femoribusque rufis, stigmatæ piceo, annulo antennarum albo.* (Long. corp. 3—5 lin.; Exp. Alar. 5—7 lin.)

Ich. *curvus*. *Schrank, Boic. 2. 2087.—Phy. curvus. Steph. Nomen. 2d edit. Gen. 722. 8.*

Black: antennæ about half the length of the body, involuted, with about the 8th to 12th joints white; abdomen ovate, as broad as the thorax, the basal segment small, red or fuscous, a little dilated at the apex, petiole black and grooved, 2nd and 3rd chestnut or tawny-red, the apex of the latter sometimes black, remainder black, the edge of the 7th whitish; ovipositor about one-third the length of the abdomen; legs moderate, tawny or dull red, coxæ and trochanters, and the hinder tarsi and tibiæ black, the latter at times reddish at the base; wings smoky-hyaline; cellule 5-angular.

Rare within the metropolitan district: found in June.

Sp. 9. *galactinus*. *Niger, segmentis 2-3 rufis, tibiis femoribusque rufis, posticis summo apice nigro, ore, orbitis internis oculorum, coxis et trochanteribus anterioribus, albidis.* (Long. corp.  $2\frac{1}{2}$ — $3\frac{1}{4}$  lin.; Exp. Alar.  $4$ — $6\frac{1}{2}$  lin.)

Phy. *galactinus*. *Gravenhorst, ii. 176.—Steph. Nomen. 2d edit. Gen. 722. 9.*

Black: mouth, clypeus, and inner orbits, and sometimes also a dot on the face, white or ochreous; mandibles with the tip fuscous; antennæ porrect, half the length of the body, the basal joint ochreous beneath; abdomen rather narrower than the thorax, oblong-fusiform, the basal segment slightly channelled, black, occasionally with the edge red, 2nd and 3rd red, 4th dull brown or reddish on the back, remainder black, with the anal membrane white; legs slenderish, red; 4 anterior trochanters and coxæ white, the latter sometimes red above, posterior coxæ, trochanters, tarsi, and tips of the tibiæ black; wings somewhat hyaline; cellule 5-angular.

Found at Darenth wood in June.

Sp. 10. *sperator*. *Niger, abdominis medio rufo, femoribus tibiisque rufis, posticis apice nigris, ore, et orbitis oculorum internis albis.* (Long. corp.  $2\frac{1}{2}$ — $3\frac{1}{2}$  lin.; Exp. Alar 4—6 lin.)

Ich. *sperator*. *Müller, Prod. 1829.—Phy. sperator. Steph. Nomen. 2d edit. Gen. 722. 10.*

Black: mandibles, palpi, inner orbits, and a small dot on the clypeus, white; antennæ porrect, nearly the length of the body, the basal joint more or less white beneath; abdomen somewhat linear-fusiform, or a little dilated towards the apex, narrower than the thorax, basal segment slightly chan-



nelled, black, its margin occasionally red, 2 following red, at times clouded with fuscous, 4th red or black, remainder black, the last 2 sometimes edged with white; legs rather slender, red, coxæ black, 4 anterior sometimes reddish beneath; trochanters black, 4 anterior occasionally yellowish at the tip; posterior tarsi and tips of the tibiæ and of the femora black, the latter sometimes black nearly to the base; wings rather hyaline; cellule 5- or somewhat 3-angular.

Taken in June at Darenth wood, and in other places within the metropolitan district.

Sp. 11. fumator. *Niger, segmentis intermediis, femoribus, tibiisque rufis.* (Long. corp. 2—3½ lin.; Exp. Alar. 3½—5½ lin.)

Phy. fumator. *Gravenhorst*, ii. 687.—*Steph. Nomen. 2d edit. Gen. 722. 11.*

Black: palpi pitchy straw-colour, middle of the mandibles red; antennæ of the male nearly as long as the body, the basal joint red beneath; of the female half the length and curved, the 1st or 3 basal joints rusty beneath; abdomen of the male oblong, of the female oblong-ovate, the basal segment black, slightly aciculated occasionally in the female, and of the male with the margins reddish, 2nd and 3rd red, or chestnut in the female, and sometimes with the edge or a fascia dusky, 4th generally black, the base sometimes red, rarely wholly red; 5th of the male occasionally red at the base; ovipositor rarely one-third the length of the abdomen; legs red, 4 anterior coxæ generally black at the base, rarely wholly red, or wholly black; posterior either entirely black, or black with a red spot beneath; trochanters generally black, with the tip red, rarely entirely red, or entirely black; posterior tarsi fuscous, the apex of the tibiæ, and also of the femora, fuscous; wings hyaline, iridescent; cellule 5-angular.

Common within the metropolitan district during the spring and summer months; found also in Salop, Scotland, &c.

Sp. 12. teneriventris. *Niger, segmento 3-tio pedibusque rufis, coxis posticis nigris.* (Long. corp. 2½—3 lin.; Exp. Alar. 4—5½ lin.)

Phy. teneriventris. *Gravenhorst*, ii. 698.—*Steph. Nomen. 2d edit. Gen. 722. 12.*

Black: palpi and generally a spot on the mandibles and the clypeus reddish; antennæ usually with the 2 basal joints red beneath; abdomen slightly elongated, a little dilated towards the apex, very glossy, smooth and depressed, basal segment black, 2nd generally black, with the apex and sides testaceous-red, 3rd either testaceous or red, generally black at the tip, 4th black, occasionally reddish at the base, remainder black; legs red; hinder coxæ black, reddish at the tip, tarsi brownish; wings hyaline, iridescent; cellule somewhat 5-angular.

Found within the metropolitan district in June.

Sp. 13. nitidus. *Niger, abdomine lanceolato, segmentis 2-4 pedibusque rufis, trochanteribus et coxis nigris.* (Long. corp. 2½—3 lin.; Exp. Alar. 3½—5 lin.)

*Phy. nitidus.* *Gravenhorst*, ii. 708.—*Steph. Nomen. 2d edit. Gen.* 722. 13.

Black: antennæ about half the length of the body, the 2nd to 4th joints more or less distinctly red beneath; abdomen rather narrower than the thorax, lanceolated, with the 2nd to 4th segments chestnut-red; ovipositor about one fourth the length of the abdomen; legs red; coxæ and trochanters black; wings more or less hyaline; cellule 5-angular.

Taken at Darenth wood in June, and also in other places within the metropolitan district, and in Salop.

*Sp. 14. assimilis.* *Niger, abdominis medio, femorum anteriorum apice, tibiisque, rufis, harum posticis apice nigro.* (Long. corp. 3—4 lin.; Exp. Alar. 5—7 lin.)

*Phy. assimilis.* *Gravenhorst*, ii. 711.—*Steph. Nomen. 2d edit. Gen.* 722. 14.

Black: palpi fuscous, or dull straw-colour; antennæ porrect, half the length of the body; abdomen rather narrower than the thorax, somewhat oblong-ovate, basal segment foveolated, black, 2nd and 3rd red, 4th either totally red, or black, with the base and sometimes the margin reddish, remainder black, silky; legs moderate, black, posterior trochanters generally rusty at the tip, 4 anterior femora rusty-red at the apex; tibiæ red, posterior black at the tip; 4 anterior tarsi red, middle sometimes fuscous at the apex, hinder fuscous; claws all black; wings smoky-hyaline; cellule 5-angular.

Found, but not commonly, in June, within the metropolitan district.

*Sp. 15. Spinolæ.* *Niger, segmentis 2-4 pedibusque rufis, femorum latera altero nec non tarsis posticis et tibiarum apice nigris, antennis tricoloribus.* (Long. corp. 3½ lin.; Exp. Alar. 6 lin.)

*Phy. Spinolæ.* *Gravenhorst*, ii. 712.—*Steph. Nomen. 2d edit. Gen.* 722. 15.

Black: palpi and middle of the mandibles rusty; antennæ scarcely half the length of the body, incurved, a little compressed and dilated in the middle, slender at the tip, 5 basal joints fuscous, rusty beneath, 2 next fuscous, 8th to 10th white, fuscous beneath, remainder fuscous; abdomen as wide as the thorax, oblong-ovate, the basal segment smooth, petiole black, red anteriorly, 2nd to 4th segments red, remainder black, the terminal one white at its apex; ovipositor half the length of the abdomen; legs moderate, red, 4 anterior with the outer edge of the trochanters and femora blackish; posterior with the tarsi, the apex of the tibiæ and the femora black, the base of the latter red, chestnut within; wings somewhat hyaline; cellule narrow, nearly 3-angular.

Found near London, and in Salop, in June.

*Sp. 16. erythrostictus.* *Niger, abdominis medio, stigmatibus, femoribus anterioribus, tibiisque, rufis.* (Long. corp. 4—5 lin.; Exp. Alar. 7—8 lin.)



*Phy. erythrostrictus*. *Gravenhorst*, ii. 714.—*Steph. Nomen*. 2d edit. *Gen.* 722. 16.

Black: palpi straw-colour; mandibles yellow in the middle; antennæ porrect, the extreme tip incurved, rather shorter than the body; abdomen silky, narrower than the thorax, the basal segment smooth, a little grooved, chestnut, the petiole black, 2nd and 3rd red, 4th red, with the margin black, remainder black; legs moderate, red, coxæ and trochanters, and hinder femora black; hinder tarsi fuscous; wings smoky-hyaline; stigma red; cellule 5-angular, pyramidal.

Taken in June, near London, and in Salop.

*Sp. 17. senilis*. *Niger*, facie cano pubescente; abdomine rufo, basi et ano nigris, femoribus tibiisque anterioribus rufis. (Long. corp. 3—4 lin.; Exp. Alar. 5—7 lin.)

*Ich. senilis*. *Gmelin*, p. 2704.—*Phy. senilis*. *Steph. Nomen*. 2d edit. *Gen.* 722. 17.

Black: face and cheeks clothed with an ashy silken pile; palpi long, ochreous; antennæ with several of the basal joints rusty beneath, the 1st occasionally fuscous; metathorax with 2 rather acute tubercles; abdomen narrower than the thorax, the basal segment black, somewhat linear, grooved, 2nd generally fuscous, with the edge paler, sometimes rusty or red, 3rd rusty or tawny, sometimes fuscous towards the base, 4th and 5th rusty-red or tawny, 2 following black, the 6th occasionally reddish; legs slender, 4 anterior red, coxæ and trochanters black, the latter more or less testaceous at the apex, the middle femora sometimes fuscous above, tibiæ whitish within, posterior black, the apex of the trochanters rusty, tarsi and tibiæ fuscous, the last frequently rusty beneath at the base and apex, or wholly chestnut within; wings rather smoky-hyaline; cellule somewhat 5- or 3-angular.

Taken, in June, near London.

*Sp. 18. procerus*. *Niger*, segmentis 2-4-5 rufis, femoribus tibiisque rufis, posticis apice nigris. (Long. corp.  $2\frac{1}{2}$ —5 lin.; Exp. Alar.  $4-6\frac{1}{2}$  lin.)

*Phy. procerus*. *Gravenhorst*, ii. 722.—*Steph. Nomen*. 2d edit. *Gen.* 722. 18.

Black: antennæ half the length of the body, porrect; thorax slightly cylindric, or a little gibbous; abdomen with the basal segment black, sometimes with a chestnut spot at the apex, the anterior portion small, quadrate, the lateral tubercles prominent, 2nd to 4th red, 5th red, with the angles, a dorsal spot on the apex black, sometimes wholly black, remainder black; legs rather slender, 4 anterior red, with the base of the femora sometimes black; coxæ and trochanters black, and also the hinder pair; posterior femora red, more or less black at the tip; tibiæ red, with the apex black; wings smoky-hyaline; cellule 5-angular.

Found near London, in June.

*Sp. 19. abominator*. *Niger*, abdomine rufo, petiolo nigro, tibiis rufis, posticis

*apicem versus nigricantibus, femoribus posticis totis, anterioribus pro parte, nigris; fœmina annulo antennarum albo.* (Long. corp.  $2\frac{1}{4}$ —4 lin.; Exp. Alar. 4—7 lin.)

Phy. abdominator. *Gravenhorst*, ii. 726.—*Steph. Nomen. 2d edit. Gen.* 722. 19.

Black: palpi generally fuscous; middle of the mandibles and the labrum reddish; antennæ with the 5th to 11th joints, or the greater portion of them, white, the 2 basal ones often rusty beneath; metathorax slightly bispinose; abdomen red, petiole black, the basal segment and sometimes a dorsal spot on the 2nd black, the 3 terminal ones occasionally fuscous; ovipositor scarcely half the length of the abdomen; legs rather silky; coxæ and trochanters black; 4 anterior femora red or rusty, black towards the base, and sometimes almost wholly blackish; the anterior in the male often wholly red, posterior always black; tibiæ red, or ochreous, posterior with the apex blackish, rarely wholly red, or entirely blackish; tarsi reddish; wings hyaline; cellule more or less 5-angular, or somewhat 4- or 3-angular.

Common within the metropolitan district, in June; found also in Salop, Scotland, &c.

Sp. 20. profligator. *Niger, abdomine rufo, petiolo nigro, tibiis femoribusque rufis: mas femorum posticorum apice nigro; fœmina antennarum annulo albo* (Long. corp.  $2\frac{1}{2}$ — $3\frac{1}{2}$  lin.; Exp. Alar. 3— $6\frac{1}{2}$  lin.)

Ich. profligator. *Fabricius.*—*Steph. Catal.* 345. No. 4112.

Black: palpi and middle of the mandibles reddish; antennæ of the male porrect, half the length of the body, rusty-brown beneath, or wholly black; of the female involuted at the apex, the basal joint black, the 5 next fuscous or rusty, the 7 following, or most of them, white, tawny beneath, the remainder brown-black; abdomen of the male narrower than, and of the female as wide as, the thorax, red, the basal segment smooth, with 2 raised lines, the base black, the 7th occasionally dusky; ovipositor scarcely a third of the length of the abdomen; legs stout, shortish, clothed with a silky pile, red; coxæ and trochanters black, coxæ of the females at times dull ferruginous; posterior femora of the male at the tip, and sometimes above, black; hinder tarsi and apex of the hinder tibiæ, in the same sex, black; wings rather smoky-hyaline; cellule irregularly 5-angular, or 3-angular.

Abundant within the metropolitan district in the summer; found also in Salop, &c.

Sp. 21. cnemargus. *Niger, abdomine rufo, petiolo nigro, pedum anteriorum femoribus tibiisque rufis, his externè albis.* (Long. corp.  $3\frac{1}{4}$  lin.; Exp. Alar.  $6\frac{1}{2}$  lin.)

Phy. cnemargus. *Gravenhorst*, ii. 734.—*Steph. Nomen. 2d edit. Gen.* 722. 21.

Black: palpi whitish; abdomen with the basal segment black, its apex red, remainder red, with the sides of the 5th to 7th fuscous; legs moderate, 4 anterior with the coxæ and trochanters black, femora tawny-red, middle pair a little fuscous without; tibiæ tawny, whitish without; tarsi testa-



ceous, claws fuscous, posterior legs black, with the base of the tibiæ reddish; wings smoky-hyaline; cellule somewhat regularly 5-angular.

Found near London in June; not common.

Sp. 22. *variabilis*. *Niger, segmentis 2 et 3 nec non femorum anteriorum apice rufis, tibiis rufis, posticis basi apiceque nigris; fœmina antennis basin versus rufis, ovipositore brevi.* (Long. corp.  $2\frac{3}{4}$ — $3\frac{1}{2}$  lin.; Exp. Alar. 4— $7\frac{1}{2}$  lin.)

Phy. *variabilis*. *Gravenhorst*, ii. 705.—*Steph. Nomen*. 2d edit. Gen. 722.

Black: head rather large, especially of the male; palpi and middle of the mandibles rusty; antennæ black, scarcely above half the length of the body, of the female incurved, the basal joint fuscous or red, 2nd to 6th rusty, remainder fuscous; metathorax of the male slightly bispinose; abdomen oblong-ovate, rather narrower than the thorax, the basal segment black, aciculated, somewhat linear, 2nd and 3rd red, 4th either wholly red, or red, with the apex black, remainder black, the terminal one with the margin whitish; ovipositor scarcely the fourth part of the abdomen in length; legs of the male with the coxæ and trochanters black, the 4 anterior femora black, red at the apex; posterior black, with the base and inner edge red, tibiæ red, posterior wholly black, or at the base and apex only; of the female the 4 anterior are red, the femora blackish towards the base, the coxæ and trochanters sometimes black above, posterior black, trochanters at the apex, or wholly, red; tibiæ occasionally red in the middle; the legs vary in being red, with the coxæ dusky, or black, with all the femora and the 4 anterior tibiæ red; wings smoky-hyaline; cellule 5-angular.

Not uncommon in the vicinity of London; found also in the New Forest, Salop, Scotland, &c. about June.

Sp. 23. *vagabundus*. *Niger, abdomine rufo, petiolo nigro, tibiis femoribusque rufis: fœmina antennis rufo testaceis, articulis ultimis et 1-mo nigris.* (Long. corp.  $2\frac{3}{4}$ —4 lin.; Exp. Alar.  $3\frac{1}{2}$ —7 lin.)

Phy. *vagabundus*. *Gravenhorst*, ii. 735.—*Steph. Nomen*. 2d edit. Gen. 722. 23.

Black: antennæ of the female with the 3rd to 13th joints, or most of them, testaceous-red; male generally with rather acute spines on the metathorax; abdomen red, the petiole more or less black; ovipositor above half the length of the abdomen; legs of the male rather slender, of the female stouter, red, with the coxæ and trochanters black; tibiæ of the female slightly ciliated externally, posterior pair of the male dusky at the tip; tarsi in that sex either all, or only the 4 posterior, blackish; wings smoky-hyaline; cellule rather irregularly 5-angular.

Not uncommon in the vicinity of London, during the summer.

Sp. 24. *gravipes*. *Niger, segmentis 1-4 pedibusque rufis, antennis 3-coloribus.* (Long. corp.  $2\frac{1}{2}$  lin.; Exp. Alar.  $4\frac{1}{2}$  lin.)

Phy. *gravipes*. *Gravenhorst*, ii. 740.—*Steph. Nomen*. 2d edit. Gen. 722. 24.

Black: mouth tawny; antennæ with the 6 basal joints tawny-red, 7th to 11th white, with a brown dot, the rest black; metathorax with 2 rather acute

tubercles; abdomen with the 4 basal segments red, the margin of the 4th fuscous, remainder black; ovipositor about one-third the length of the abdomen; legs stoutish, wholly red; wings smoky-hyaline; cellule 5-angular.

Not common: found, in June, near London.

Sp. 25. podagricus. *Niger, abdomine, basi antennarum, tibiis et femoribus apice, rufis.* (Long. corp.  $3-3\frac{1}{4}$  lin.; Exp. Alar. 5—6 lin.)

Phy. podagricus. *Gravenhorst*, ii. 710.—*Steph. Nomen. 2d. edit. Gen. 722.*

Black: antennæ with the basal joint black, 2 following the same, but rusty-red beneath, 16 next entirely rusty-red, remainder black; abdomen shining red, petiole black; ovipositor about the fourth part of the abdomen in length; legs stout; coxæ and trochanters black; anterior femora red, slightly black towards the base, middle pair black, with the apex red, posterior black with the tip red, or red with the base black; tibiæ red; anterior tarsi red, middle brownish, hinder black; wings smoky-hyaline; cellule minute, 5-angular.

Found within the metropolitan district and in Salop, in June; not uncommon.

Sp. 26. erythrogaster. *Niger, abdomine rufo, petiolo nigro, tibiis nec non femorum anteriorum apice rufis, antennarum articulis 2-10 ferrugineis.* (Long. corp.  $2\frac{1}{2}$  lin.; Exp. Alar.  $4\frac{1}{4}$  lin.)

Phy. erythrogaster. *Gravenhorst*, ii. 741.—*Steph. Nomen. 2d. edit. Gen. 722.*

Black: antennæ with the 2nd to 10th joints rusty-red; abdomen red or testaceous, the basal joint either red with the petiole black, or black with the margin red, the terminal one sometimes slightly fuscous; ovipositor nearly half the length of the abdomen; legs black; 4 anterior femora more or less reddish at the apex, tibiæ red; antennæ occasionally fuscous at the tips; tarsi red, hinder pair fuscous; wings somewhat hyaline; cellule 5-angular.

Also found, in June, near London and in Salop.

Sp. 27. parviventris. *Niger, abdomine, femoribusque rufis, horum posticis apice nigro; tibiis anterioribus rufis, posticis nigris, omnibus aulem extra albis; fœmina antennarum annulo albo.* (Long. corp.  $3-4\frac{1}{4}$  lin.; Exp. Alar.  $4\frac{1}{2}-7\frac{1}{2}$  lin.)

Phy. parviventris. *Gravenhorst*, ii. 746.—*Steph. Nomen. 2d edit. Gen. 722.*

Black: palpi fuscous; antennæ of the male porrect, above half the length of the body, rusty-brown; palest beneath, the basal joint black; of the female involuted, nearly half the length of the abdomen; the 6th to 11th joints white; metathorax with 2 short obtuse spines; abdomen red or brownish, of the male somewhat fusiform, of the female subovate; ovipositor about half the length of the abdomen; legs moderate; coxæ and trochanters black, femora of the female



whitish, with the tip black, of the male red, 2 or 4 hinder ones black at the extreme apex; 4 anterior tibiæ rusty within, whitish without, the extreme tip rusty-brown; posterior black, exteriorly white in the middle; wings more or less hyaline; cellule rather irregularly 5-angular.

Apparently scarce; found, in June, near London.

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## ERRATA.

- Page 3 line 22, *for* number *read* numbers.
- 4 line 10, *read* The subdivision A. **PHYTIPHAGA** LATR. embraces three families.
  - 35 line 8, and 11 from bottom, *for fuscipennis* *read fumipennis*.
  - 45 line 10 from bottom, *for antices* *read* antennis.
  - 56 line 23 from bottom, *for* with 6, *read* with 4.
  - 60 line 3, *read* antennæ black, basal joint generally, &c.
  - 62 line 15, *for* 4-posterior *read* 2-posterior.
  - 114 line 16, *for* posterior tibia *read* posterior tibiæ.
  - 117 line 7 from bottom, *for Paxyloma* *read Paxylloma*.
  - 119 line 12 from bottom, *for* **PAXILOMA** *read* **PAXYLLOMA**.
  - 120 line 6, *dele* †.
  - 120 line 14, *add*, in plenty at Hertford, July, 1835.
  - 294 line 26, *for* remembered *read* remarked.

END OF VOL. VII.

---

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SUPPLEMENT.

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“In his tam parvis tamque ferè nullis quæ ratio ! quanta vis ! quam inextricabilis perfectio !”—*Plin.*

“Finis Creationis Telluris est gloria DEI, ex opera Naturæ, per Hominem solum.”—*Linné.*

---

LONDON :

HENRY G. BOHN, YORK STREET, COVENT GARDEN.

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1846.





## A D D R E S S.

---

A CYCLE of nineteen years has been completed, since the appearance of the first number of these Illustrations; within which period no less than 72 distinct works on Entomology, forming 112 volumes, have emanated from the British press (exclusive of reprints, and of works on Bees). Of these more than half (41) are arranged in conformity with the views developed in this work, or my Systematic Catalogue;—the remainder being chiefly devoted to the description of foreign Insects, to particular groups of Insects, or being elementary treatises on the subject.

From these facts, and from what is shewn in the note below,\* and hereafter stated, it would appear that my labours have contributed materially towards the advancement of Entomology in this country.

That the exertions of Dr. Leach, and of Messrs. Kirby and Spence, however, greatly conduced towards instilling a taste for this department of Zoology, and its consequent progression, need scarcely be insisted upon in this place; but the foundations of a building are of little avail, unless the building itself be erected:—it has been my endeavour to attempt the stupendous enterprize, so far as relates to the indigenous species of insects; but, alas! vainly. Nevertheless, I have succeeded in partially rearing the temple, and my success may be rendered manifest by the following brief recapitulation of my labours.

Previously to 1818, the total number of species of insects described, or recorded, as British, was 3673; in that year about 500 additional species were introduced in Samouelle's Compendium, from my cabinets; and subsequently about 100 more, in the first two volumes of Curtis's Genera, chiefly from my manuscripts; making

\* About 300 copies of the Illustrations, 412 of my Systematic Catalogue, and 1220 of my Nomenclature, have been disposed of within the period in question.



altogether less than 4500 antecedent to the appearance of my Systematic Catalogue, in July, 1829, in which 10,116 species are indicated as indigenous.

In the Illustrations I have described 7165 species, and characterized 1114 genera—a greater number than has hitherto been introduced into any single work on Entomology (the nearest approach to that number being Schönherr's Curculionidæ, in which 7141 species, and 631 genera, are detailed),—and about 5000 species, and at least 500 genera, remain to be described; a task I had hoped to have accomplished, but circumstances wholly beyond my control have totally frustrated that intention, and the work has now passed into other hands, and been brought to a conclusion; notwithstanding a very considerable portion of the manuscript has been long prepared.

The attempt to describe all the indigenous species of insects, has been scouted as a physical impossibility, which is true to a certain extent, as no human labours can be perfect; nevertheless, it is evident that an approach may be made towards the attainment of the object: how far I have effected the same may be illustrated by calling attention to the comparatively few species that have been discovered belonging to the portion of this work already published, notwithstanding the great increase in the number of practical collectors. I may also add, that in my Systematic Catalogue, after abating the unnamed species indicated therein, and the doubtful ones, the real number named is 8959, and in Mr. Curtis's Guide, 1st edition, which registers 10,420, after a similar process, there remains only 8966! A tolerable proof that I had made some approximation towards the actual number, inasmuch as the Guide took full two years to complete, *after* the appearance of my Catalogue.\* In the 2nd edition of the Guide, 12,003 species are enumerated,

\* Boisduval, in his *Species Général des Lépidoptères*, p. 140, in speaking of my Catalogue and Curtis's Guide, says—"L'ouvrage de M. Stephens étant postérieur de quelques mois à celui de M. Curtis," &c. In answer to which it is most essential for the interests of truth and of science to state, that the first 20 columns only of the Guide—(15 thereof made up from these Illustrations, as far as then completed)—were published on the 1st of June, 1829, (*not in March*, as it would appear by the date at the end of the Preface), *anterior* to the appearance of my Catalogue in *July* following; the Lepidopterous portion of the Guide not appearing till towards *the end of 1830*.

upwards of 2000 of which, amongst the Hymenoptera and Diptera, are not British.

Since the publication of the last number of this work in January 1837, I have been unwearied in my endeavours to obtain a complete census of our indigenous species, and have proceeded to a considerable extent in working up an amended edition of my Catalogue (or Nomenclature), by patiently re-examining the references to every species and synonym, attaching the actual date when possible to every reference, and re-arranging my collection on a novel plan, to correspond exactly with *every name*, both specific and synonymical: a proceeding which the possession of the largest collection of British Insects, and probably the most extensive Entomological Library (about 1500 volumes), have enabled me to perform with some prospect of success, especially now that my time is solely at my own disposal. This Nomenclature it was my full intention to print with the continuation of the Illustrations; whether, however, it may now ever see the light is problematical: it will not be my fault should it not, for no person has more sincere cause to regret the abrupt termination of this work than myself, having not only devoted the greater portion of a not very short life towards its prosecution, at a cost of nearly £10,000, in the formation of my Collection and Library, and in the expense of publication; but as a consequence of loss of time in defending my copyright in 1832-3, my prospects were for ever blighted, by the inconsiderate prejudices of an implacable and tyrannical individual: thus compelling me, in the decline of life, to embrace the first opportunity that presented itself, of relieving myself of the thralldom of office, and of retiring in comparative penury therefrom!

Contrasted therewith, I have now in conclusion the pleasure sincerely to return my thanks to my Subscribers generally, for their support, and more particularly to the following gentlemen,—amongst whose names will be found those of the persons most eminently distinguished for their respective attainments in the various branches of natural science, in this country,—for their recent exertions on my behalf.



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*Eltham Cottage, Foxley Road, Kennington,  
September, 1846.*

ILLUSTRATIONS  
OF  
BRITISH ENTOMOLOGY.

---

MANDIBULATA.

---

HYMENOPTERA.

FAMILY V. ICHNEUMONIDÆ, *Leach*.

Plate XXXIX. fig. 3.

*Phytodietus segmentator*.

PH. *Niger*, marginibus segmentorum albidis; pedibus rufis anticorum trochanteribus et coxis flavis, posticorum tarsis et tibiæ apice nigris. (Long. Corp.  $2\frac{1}{2}$   $3\frac{1}{4}$  lin. Exp. Alar. 7 lin.)

Phy. segmentator, *Gravenhorst*, ii. 944.—*Steph. Nomen*. 2 edit.

Black, with the margin of the abdominal segments whitish; legs red, slender, with the trochanters of the anterior and the coxæ yellow, the tarsi of the posterior, and the apex of the tibiæ black:—the male has the face yellow, and the posterior coxæ and trochanters varied with black and yellow: the female has the face marked with yellow, and the hinder coxæ red.

Apparently rare: taken in the vicinity of London.

---

Plate XXXIX. fig. 2.

*Schizopyga analis*. ♀

Sc. *Nigra*, abdomine rufo, margine segmentorum 1—3 anoque nigris; pedibus rufis, nigro maculatis; aculeo subexserto. (Long. Corp.  $3-3\frac{1}{2}$  lin.)

Sch. analis, *Gravenhorst*, iii. 130.—*Steph. Nomen*. 2 edit.

Black: mouth and antennæ beneath pale testaceous: abdomen with the basal segment black, with its sides and back red, 2nd and 3rd segments red, the edges black, two following wholly red, the rest black: legs red, the tips of the four hinder thighs and tibiæ black: hinder tarsi black, the base of the joints testaceous: female with the ovipositor slightly exserted.

Taken at Darent, in June.

MANDIBULATA—SUPPLEMENT, AUGUST, 1846.

B



## Plate XXXIX. fig. 1.

*Rhyssa Persuasoria*. ♂

RII. *Nigra albomaculata*, segmentis intermediis maculis duabus lateribus albis; pedibus fulvis, posticis tibiis tarsisque fuscis:—mas. facie alba; fem. orbitis oculorum albis, aculeo corpore longiore. (Long. Corp. 6—15 lin.)

Ich. persuasorius, *Linné*.—Rh. persusoria, *Steph. Cat. No.* 4012.

Black, spotted with yellowish white: intermediate, and sometimes the basal segments of the abdomen with a yellowish-white spot on each side: legs fulvous, the hinder tibiæ and tarsi fuscous. *Male* with the face white; *female* with the orbits of the eyes white, the ovipositor longer than the body.

The figure represents the male of this rare species of the natural size: the crossed lines having been erroneously annexed thereto, in lieu of being attached to the figure of *Schizopyga analis*.

Taken at Weybridge; Coombe Wood; near Kimpton, Hants: and York: but rare.

## Plate XXXVI. fig. 4.

*Arotes albicinctus*. ♀

AR. *Niger segmento primo albidomarginato, femoribus tibiisque anterioribus subtus testaceis*. Mas. facie flava, antennis subtus fulvis; fem. annulo antennarum albo. (Long. Corp. 6—7½ lin.)

Ar. albicinctus, *Gravenhorst*, *Ich.* iii. 448.—N. S. tarsalis, *Steph. Cat. No.* 4009.

Black: the basal segments of the abdomen edged with white; the anterior thighs and tibiæ testaceous beneath. Male with the edges of the 2 basal segments of the abdomen, and the tips of all the tarsi white, antennæ reddish beneath: female with the tips of the hinder tarsi, and a ring in the middle of the antennæ white.

Many years since, I once observed this fine, and apparently rare, insect, flying in plenty at Darenth Wood in June; I fortunately secured a pair. It is the only species of the genus.

## Plate XL. fig. 4.

*Enicospilus combustus.*

Sp. 1. *Eni. merdarius*.—*Testaceus, oculis abdominisque apice fuscis.*  
(Long. Corp. 6—10 lin.)

Op. *merdarius*, *Gravenhorst*, iii. 698.—*Steph. Nomen. 2d edit.*

Testaceous, with the eyes and the two or three terminal segments of the abdomen fuscous: ovipositor black.

Sp. 2. *Eni. ramidulus*, *Linné*.—*Steph. Cat. No. 4637.*—*Testaceus, abdominis apice nigro.* (Long. Corp. 6—10 lin.)

Testaceous, with the two last segments of the abdomen wholly black.

Sp. 3. *Eni. combustus*, Plate XL. fig. 4.—*Gravenhorst*, iii. 701.—*Steph. Nomen. 2d edit.*—(*Testaceus, thorace et abdominis apice nigris.*  
(Long. Corp. 9 lin.)

Testaceous, with the thorax and the two last segments of the abdomen and a spot on the back of the first, black.

The above, which are all the species of this genus, are found, but rarely, in gardens within the metropolitan district.

## BRACONIDÆ.

## Plate XXXVII. fig. 2.

*Microgaster tibialis.*

MI. *Niger, tibiis testaceis; alis denigratis.* Fem. *aculeo abdominis dimidio brevior.* (Long. Corp.  $1\frac{1}{4}$  lin.)

Mi. *tibialis?* *Nees. I. A. i. 168.*—*Steph. Nomen. 2d edit.*

Deep black; antennæ short robust; anterior femora at the apex, and the tibiæ testaceous, posterior brown; anterior tarsi testaceous with brown tips: wings deep smoky black, with the stigma darker: ovipositor half the length of the abdomen.

Found in meadows during the summer; widely dispersed.



## Plate XXXVII. fig. 1.

*Microgaster? basalis.*

MI. *Niger, abdominis basi, pedibusque rufis; alis hyalinis, stigmatibus rufo.* (Long. Corp. 2 lin.)

Mi. ? *basalis, Steph. Nomen. 2d edit.*

Black: the three basal segments of the abdomen, and the legs wholly red: wings hyaline, yellowish, with the stigma reddish.

Very rare: found near London, and in Devonshire.

## Plate XXXVII. fig. 3♂. 4♀.

*Helcon annulicornis.*

HE. *Ater, nitidissimus; abdominis sublinearis primo segmento acute bicarinato; pedibus rufis, coxis trochanteribusque anterioribus tibiis tarsisque posticis nigris, his medio albis; femoribus posticis unidentatis.* Fem. *Annulo antennarum albo.* (Long. Corp. 5 lin.)

He. *annulicornis, Nees ab Essen. Hym. i. 231.—N. S. dentata.—Steph. Cat. No. 4010.*

Deep, shining, black: abdomen somewhat linear, its basal segment with 2 sharp ridges: legs red, the anterior coxæ and trochanters and hinder tibiæ and tarsi black, the middle of the latter white: hinder thighs with a single sharp tooth near the tip beneath. Female, with a white ring in the middle of the antennæ.

I possess a fine pair of these remarkable insects, taken I believe in South Wales; and in the collection of the Entomological Club are several examples, of both sexes, which, if I mistake not, were captured near Leominster, by Mr. Newman.

## CHALCIDIDÆ.

Plate XLIV. fig. 3.

*Haltichella armata.*

IIA. *Nigra, pubescens femoribus posticis subtus subbidentatis, nigris; scutello elongato, bifurcato; pedibus anterioribus ferrugineis, femoribus tibiisque in medio fuscis.* (Long. Corp.  $2-2\frac{1}{2}$  lin.)

Ch. armata, *Panzer.*—*Steph. Cat. No.* 5318.

Black, pubescent: scutellum elongate, its apex bifurcate; hinder thighs black, somewhat bidentate beneath; anterior legs rust-coloured, thighs and tibiæ brown in the middle. Male, with the anterior legs without the brown colour.

Found in June, at Ripley, among hazels.

Plate XLIV. fig. 1.

*Eucharis adscendens.*

EU. *Viridi-ænea, nitida; scutello integro.* (Long. Corp.  $2\frac{1}{2}$  lin.)

Cy. adscendens, *Fabricius Mant.* i. 251.—Eu. adscendens.—*Steph. Cat. No.* 5324.

Brassy-green, very glossy, punctured, glabrous; scutellum elevated, ovate, obtuse; legs pale testaceous, with the base of the femora and the claws fuscous. Male, with the scutellum acute, and the hinder femora dusky.

Found in South Wales, near Swansea, in June.



## EURYTOMIDÆ.

Plate XLV. fig. 3.

*Eurytoma Abrotani*. ♂

Eu. *Nigra*, *antennis maris antrorsum sinuatis; tibiis anticis tarsisque omnibus testaceis: feminae, geniculis solis tarsisque pallidis, alis hyalinis.* (Long. Corp. 1—3 lin.)

Eu. *Abrotani*, *Illiger*.—*Steph. Cat. No.* 5326.

Black, punctured; slightly pubescent; wings hyaline: *male* with the anterior tibiæ, knees and tarsi testaceous; antennæ pilose and sinuated anteriorly: *female* with the knees and tarsi alone whitish.

Common in hedges about London.

## SPALANGIIDÆ.

Plate XLV. fig. 1.

*Crocephala cornigera*. ♂

C. *Nigra*, *caput fulvum, oculis verticique nigris, antennis basi fulvis; collare lateribus anticis pedibusque fulvis.* (Long. Corp. 1½ lin.)

C. *cornigera*, *Westwood*.—*Steph. Cat. No.* 5351.

Black; head fulvous, with the eyes and crown black; base of the antennæ, sides and part of the collar, and legs also fulvous; thorax punctured; abdomen glossy; wings hyaline, anterior with a small black spot before the middle, and a large dusky one near the apex.

Taken at Ripley in July 1827.

## TORYMIDÆ.

Plate XLV. fig. 2.

*Megastigmus dorsalis*. ♀

ME. *Viridis, flavo variegatus; abdominæ æneo, oviductu corpore brevior, alis subhyalinis, maculâ fuscâ.* (Long. Corp.  $1-1\frac{1}{2}$  lin.)

Ich. *dorsalis, Fabricius.*—Coll. bipunctatis.—*Steph. Cat. No.* 5352.

Green, abdomen brassy; *male* with the head in part yellow; antennæ brown; the scape green, with the base and beneath yellow; legs more or less yellow, or pale straw; the apex of the tarsi brown; wings somewhat hyaline, with a large brown stigma: *female* with the head yellow, green between the eyes, abdomen yellow beneath, the disc brassy-brown.

Common on oaks near Hertford and Ripley, in the autumn.

Plate XLV. fig. 4.

*Callimome varians*.

CA. *Viridis; nitens: abdomine apice æneo, oviductû corpore paullo longiore, pedibus flavis, femoribus supra viridibus aut æneis; alis subfuscis.* (Long. Corp.  $1\frac{3}{4}-2\frac{1}{4}$  lin.)

Ca. *variens, Walker.*—*Steph. Nomen.* 2d edit.

Green, shining; eyes and ocelli red; thorax behind and beneath brassy-green; abdomen with the basal segment green, tinted with copper, the apex brassy; ovipositor rather longer than the body; legs yellow, the thighs above, and sometimes the posterior tibiæ clouded with green or dusky-brass.

Taken near London, in the autumn.



## Plate XLIV. fig. 2.

*Perilampus micans.*

PE. *Viridi-æneus, subobscurus, scrobiculato-punctatis; thoracis dorso cupreo aurato; abdomine ater; fronte hypostomateque transversim striolatis.* (Long. Corp.  $1\frac{1}{2}$ —2 lin.)

Pe. micans, *Dahm. Act. Holm.* 1820. p. 73.

Dullish brassy-green, coarsely punctured: thorax above golden copper: abdomen deep black, glossy: front and hypostome transversely striated: thighs brassy-green, the extreme tip testaceous: tibiæ and tarsi pale testaceous. Male of a bluish tint. Hinder tibiæ (as in the figure) sometimes clouded with fuscous.

Extremely abundant in June, on new oak paling, about Camberwell, found in company with *Lyctus oblongus* and *Tillus unifaciatus*, which last is also at times to be found there in plenty, between the 10th and 21st June, in sunny weather.

## Plate XLIV. fig. 4.

*Cratomus megacephalus.*

C. *Ater tibiis luteis, capite maximo retuso.* (Long. Corp. 1 lin.)

Cynips megacephala, *Fabricius*.—Cr. megacephalus, *Steph. Cat. No.* 5323.

Deep, obscure, bluish-black: abdomen glossy: legs black, tibiæ and tarsi yellow: head very large and broad, bidentate in front: wings clouded with fuscous. Four posterior tibiæ sometimes clouded with brown.

Found occasionally on new palings near London.

Sp. 2. Ce. nigripes, *Steph. MSS. ater, pedibus toto nigris, alis hyalinis.* Smaller, with the legs and tarsi wholly black: wings hyaline.

Taken in the garden at the Hermitage, South Lambeth.

## E N C Y R T I D Æ.

Plate XLVI. fig. 4.

*Eucyrtus punctipes*. ♀

EN. *Albo-canescens*; *antennis nigris, albo annulatis*; *capite thoraceque testaceis, hoc griseo squamoso*; *abdominis dorso medio tibiærumque annulis nigris*: *alis hyalinis*. (Long. Corp.  $\frac{1}{2}$  lin.)

En. *punctipes*, Dahm.—*Steph. Nomen. 2d edit.*

Whitish-ash: antennæ black, annulated with white: head and thorax testaceous, the latter rather densely clothed with griceous scales: middle of the abdomen above, and rings in the tibiæ, black: wings hyaline. Male with the antennæ pale fulvous.

Found on lime-trees near London, during the summer: also in Wales and the north of Ireland.

## E U L O P H I D Æ.

Plate XLVI. fig. 1.

*Eulophus cinctipes*. ♂

EU. *Viridis, thorace scutelloque purpureis, abdomine nigro, pedibus flavis posterioribus nigro cinctis*. (Long. Corp. 1 lin.)

Eu. *cinctipes*, Steph. *Nomen. 2d edit.*

Green, shining; collar and scutellum purple: abdomen linear, black: legs yellow, middle thighs with a black ring towards the base, and hinder pair with the apex black: middle and hinder tibiæ with their tips broadly black: antennæ pale fuscous.

Found in the spring, near London.



## Plate XLVI. fig. 3.

*Cirrospilus Walkeri.*

Ci. *Flavus*, *macula thoracis*, *abdominisque apice viridi-æneis*, *tibiis intermediis apicibus nigris*. (Long. Corp.  $1\frac{1}{4}$  lin.)

Ci. *Walkeri*, *Steph. Nomen. 2d edit.*

Yellow; ocelli black; eyes fuscous; an irregular blotch on the thorax, and the metathorax and scutellum brassy-green; abdomen yellow, its tip greenish-black; sides of thorax yellow, with a greenish apex: legs yellow, the apex of the middle tibiæ and tips of the hinder tarsi, black.

Found in June, near London.

## PROCTOTRUPIDÆ.

## Plate XLVI. fig. 2.

*Diapria conica*. ♀

DI. *Antennis apicem versus incrassatis, clarâ subsexarticulata, nigrâ, scapo pedibusque pedis, tibiis pallidioribus; abdomine conico-acuminato*. Mas. *antennis corpore longioribus fuscis, scapo pedibusque rufis, flagelli articulis elongato-cylindricis verticillato pilosis, secundo basi extrorsum distincte emarginato; ano obtuso*. (Long. Corp.  $1\frac{1}{2}$ — $1\frac{3}{4}$  lin.)

Ich. conicus, *Fabricius*.—Di. conica, *Steph. Cat. No. 5601*.

Black: *Female* with the antennæ thickened towards the apex, the club black, and obscurely six-jointed, the base and the legs pitchy, the tibiæ paler; abdomen conic-acuminate. *Male* with the antennæ longer than the body, fuscous, the scape red, the joints elongate-cylindric, verticillate pilose, the second joint distinctly notched towards the base: anus obtuse.

Not uncommon in the vicinity of London in the summer.

## GONATOPIDÆ.

Plate XLVII. fig. 2.

*Anteon flavicorne.*

An. *Nigrum nitidum, fronte albo-sericed; ore albo; antennis (feminæ) thorace brevioribus apice crassioribus et pedibus testaceis: metathorace leviter cancellato.* (Long. Corp.  $1\frac{1}{2}$ —2 lin.)

Dr. flavicornis, *Dalman*.—Go. flavicornis, *Steph. Catal. No. 5673.*

Black, and shining: forehead with a whitish pile; mouth white, antennæ of the female rather shorter than the thorax, thickened at the apex, and, with all the legs, pale testaceous; metathorax slightly cancellated.

Found near London, in woods and shady places, in July.

## SCELIONIDÆ.

Plate XLVII. fig. 3.

*Teleas Procris.*

Te. *Ater, apterus, pedibus piceis, antennis mari filiformibus.* (Long. Corp.  $\frac{2}{3}$  lin.)

Te. *Procris, Walker. Ent. M. iii. 366.—Steph. Nomen. 2d edit.*

Black, punctured, slightly pubescent; wingless; legs pitchy, the knees, tips of the tibiæ and the tarsi reddish; abdomen with the basal segment, and the greater portion of the 2nd deeply striated.

Common in grassy places about London.



## LARRIDÆ.

Plate XLVII. fig. 4.

*Miscophus bicolor.*Mr. *Niger*. Fem. *abdomine basi rufo*. (Long. Corp. 3 lin.)Mi. *bicolor*, *Jurine*.—*Steph. Catal. No. 4919.\**

Black, finely punctured; mandibles reddish; abdomen with the basal segment entirely, and the base of the second red, remaining segments with their edges slightly pitchy. Male totally black.

Taken at Coombe Wood, and near Weybridge, in June and August.

Plate XLII. fig. 3.

*Dinetus pictus.*

Di. *Lævis, niger, thorace maculato, abdomine ferrugineo fasciis tribus flavis, ano nigricante*. Mas. *fronte flavo, antennis cochleatim retortis*. (Long. Corp. 3—3½ lin.)

Cr. *pictus, Fabriciis*.—Di. *pictus, Steph. Catal. No. 4920*.

Smooth; black: thorax with an interrupted transverse band on the collar, the tegula, tubercles, and a streak across the scutellum yellow; abdomen with the three basal segments reddish, the 2nd and 3rd having an ovate yellow spot on each side near the margin, the three following segments black, with the edges of the 5th and 6th yellow; apex of the anterior femora and tibiæ outwardly yellow. Male with the head yellow in front; antennæ twisted: 4 anterior legs yellow.

Rare: taken in June near Windsor.

## SPHEGIDÆ.

Plate XLI. fig. 1.

*Aporus bicolor.* ♀

Ap. *Ater*, *abdominis segmentis tribus saturate rubris.* (Long. Corp.  $2\frac{1}{2}$ — $3\frac{1}{2}$  lin.)

Ap. bicolor, *Spin. Ins. Lig.* ii. 34.—*Steph. Catal.* No. 4862.

Deep opaque black; the 3 anterior segments of the abdomen dull deep red, or rust-coloured. Male with the anterior portion of the face, excepting the clypeus, metathorax, coxæ and trochanters clothed with a dense silvery pubescence; with the margin of the first, and base of the second abdominal segments deep pitchy-red.

Rare: found in Dorsetshire, and in South Wales, near Swansea, in June; and at Weybridge, in August.

Plate XLI. fig. 2.

*Pompilus notatus.*

Po. *Niger*; *antennis thorace paullo longioribus, abdominis segmento secundo supra fasciâ rubrâ sæpe obsoletâ, pedibus partim nigris, partim rubris.* (Long. Corp.  $3\frac{3}{4}$  lin.)

Po. notatus, *Rossi.*—Po. formosus.—*Steph. Catal.* No. 4884.

Black: antennæ slender, rather longer than the thorax; mandibles reddish at the tip; abdomen with a broad red band at the base of the 2nd segment, sometimes obscure; anterior femora within, with their tibiæ and tarsi, the intermediate femora at the tip and their tibiæ, and also the hinder femora dull-red; wings hyaline, slightly clouded with brown at the tip.

Very rare; taken in June near Ripley.



## Plate XLII. fig. 1.

*Dolichurus corniculus.*

†Do. *Ater, nitidus, immaculatus.* (Long. Corp. 3—4½ lin.)

Po. *corniculus, Spinola.*—Do. *ater, Steph. Catal. No. 4894.*

Deep glossy black, immaculate; the extreme margin of the abdominal segments reddish-pitch.

Very rare, at least in the east of England; found by Dr. Leach near Ashburton, Devon.

## Plate XLI. fig. 3.

*Sphex flavipennis.* ♀

Sp. *Niger, fronte aurea, abdomine rufo, petiolo apiceque atris, tarsis ferrugineis.* (Long. Corp. 7½ lin.)

Sp. *flavipennis, Fabricius.*—*Steph. Catal. No. 4896.*

Black, pubescent: forehead with a golden pubescence; with the apex of the basal segments, and the whole of the 2nd and 3rd segments red, margin of the rest pitchy; tarsi rust-coloured.

Taken, I believe, in Norfolk; apparently very rare.

## Plate XLI. fig. 4.

*Miscus campestris*. ♂

Mr. *Niger*, *metathorax in medio depresso et a latere oblique striato, abdominis segmento secundo et tertio rufo.* (Long. Corp. 7—9 lin.)

Mi. *campestris*, *Van de Linden Hym.* i. 92.—*Steph. Nomen.* 2d edit.

Black, pubescent: metathorax with a faint longitudinal depression, with slanting lateral striæ: abdomen with the apex and the band, the whole of the second and the base of the third, segments red. In the male there is a black patch on the back of the second segment.

Found in Dorsetshire, and in the New Forest: and in the greatest profusion on the heaths near Weybridge, Surrey, in June and July.

## FORMICIDÆ.

## Plate XLII. fig. 2.

*Ponera contracta*.

+Po. *Elongata*, *subcylindrica, fusco-brunnea; antennis pedibusque lutescente brunneis.* (Long. Corp.  $1\frac{3}{4}$ —2 lin.)

Fo. *contracta*, *Latreille.*—*Steph. Nomen.* 2d edit.

Elongate, nearly cylindric, deep brown glabrous and shining: antennæ short, reddish-brown; mandibles pitchy-red: abdomen with the second segment separated by a stricture from the first, its margin as also that of the others pitchy-red: legs brownish-yellow or ochreous. Females with very indistinct eyes; neuter without eyes, and wingless.

Found in the neighbourhood of Chelsea and Pimlico, in June. In the collections of Messrs. Westwood and Ingpen.



## APIDÆ.

## Plate XLIII. fig. 1.

*Nomada Kirbyella.*

No. *Nigra*, *apicibus antennarum, tibiis, tarsisque rufis; abdomini segmento 2o, 3o-que maculâ laterali albida, 4°—6° fasciis abbreviatis transversis ochreis.* (Long. Corp.  $6\frac{1}{4}$  lin.)

No. *Kirbiella*, *Steph. Catal. No. 5070.*

Head and clypeus, wholly black; the latter with a dense silvery pubescence: maxillæ yellow: antennæ red, scape black, the basal joint with a short black streak behind: thorax black, tubercles and tegulæ red: trochanters, coxæ, and femora black, the extreme tip of the latter, tibiæ, and tarsi red: abdomen tawny red, the basal segment half black, 2nd with a round cream-coloured spot on each side, 3rd with a smaller one, 3 following with short, transverse, ochreous bands; beneath wholly red.

Taken by myself, near London.

## Plate XLIII. fig. 2.

*Osmia xanthomelana.*

Os. *aterrima, villosa, thorace, abdominisque basi, lanuginoso fulvescentibus.* (Long. Corp.  $4\frac{1}{2}$ — $6\frac{1}{4}$  lin.)

Ap. *xanthomelana*, *Kirby.—Steph. Catal. No. 5058.*

Black; deeply punctured, and pubescent: *female* with the head clothed with black hair, the thorax above with reddish-brown, and beneath with black; legs also clothed with black and tarsi beneath with dark brown: abdomen with the 2 basal segments clothed with reddish brown, the rest thinly clothed with black, inside the under surface densely so. *Male* with the face clothed with white hairs, inclining to ochreous towards the crown; thorax above with fulvous and beneath with hoary, as well as the legs: abdomen above also clothed with fulvous, with the 6th segment notched, the 7th incurved and bidentate.

Taken at Birch and Darenth woods; also near Liverpool and Bristol, and near Ryde in the Isle of Wight, in May and June.

## Plate XLIII. fig. 3.

*Bombus cognatus.*

Bo. *Hirsuto-flavescens*, *abdominis basi nigricante, pedibus piceis.* (Long. Corp. 7—8 lin.)

Bo. *cognatus*, *Steph. Catal. No. 5136.*

Black: head sparingly clothed with long whitish hairs in front: thorax densely covered with bright ochreous yellow hairs: abdomen clothed with long dusky hairs on the 2nd segment, and with pale ochreous ones on the rest, legs pitchy, clothed on the femora with whitish, and on the tibiæ and tarsi, with pale ochreous hairs.

Closely allied to Bo. *Muscorum*, of which the examples I possess may be immature specimens.

Taken on Leigh Down, near Bristol.

## ANDRENIDÆ.

## Plate XLIII. fig. 4.

*Andrena bucephala.*

AN. *Niger, glabriuscula, tibiis tarsisque rufescentibus; capite magno.* (Long. Corp. 5 lin.)

An. *bucephala*.—*Steph. Nomen. 2d edit.*

Black: head very large and broad, sparingly clothed with longish ochreous hair in front: thorax with a few scattered hairs on the sides and behind: abdomen shining, glabrous, the margins of the segments pitchy, and the anal one tawny: femora black; tibiæ tawny, the anterior pair with the front dusky; tarsi tawny; wings iridescent; stigma tawny.

This may be only a very highly developed male of the *Andrena longipes* of Shuckard; but I have seen no connecting link, in regard to the magnitude of the head, which in the present insect is enormous. Found in June, near Bath.



## CYNIPIDÆ.

Plate XLVII. fig. 1.

*Anacharis Eucharoides.*

AN. *Ater*, aut *æneo-ater*; *petiolo abdominis dimidio longiore*; *pedibus flavis*; *alis albo-limpidis*. (Long. Corp. 1—1½ lin.)

An. *Eucharoides*, *Dalman.*—*Steph. Nomen.* 2d edit.

Black or brassy black: legs yellow; coxæ and trochanters black; tarsi dusky at the tip: wings limpid, scales and nervures rust-coloured, the longitudinal nerve yellow at the base, the outer transverse nerve stout and pitchy: petiole above half the length of the body.

Found near London; in Windsor Forest, and in the Isle of Wight, in June and September.

## STREPSIPTERA.

## STYLOPIDÆ.

Plate XLVII. fig. 4.

*Stylops Melittæ.*

ST. *Aterrima*; *alis subrotundatis, lacteis, costa nigricante*; *pedibus piceis, tarsis anterioribus rufescentibus*. (Long. Corp. 1½ lin.)

St. *Melittæ*, *Kirby M. A.*—*Steph. Catal. No.* 5789.

Intense black; wings somewhat rounded on the hinder margins; milk white, stained with dusky towards the costa, which is deep black: legs pitchy, with the 4 anterior tarsi reddish: abdomen pale on its edges.

Found, very rarely, near London; and in Suffolk; in the spring.

The insects included in this genus are all of the utmost rarity near London; but under favourable circumstances, and in some localities, numerous examples have been observed and captured.—It would appear from the diversity in the form of the wings and other minor characters, that there were several distinct species: I have, however, been unsuccessful in obtaining more than two, viz. *Melittæ* and *Dalii*.

The following are the indigenous species recorded, viz. :—

- Sp. 1. *Melittæ Kirby.*—Barham: Clapham.
2. *Kirbii Leach.*—Devonshire.
3. *Haworthi Stephens.*—Chelsea.
4. *Spencii Pickering.*—Hammersmith.
5. *Dalii Curtis.*—Epping and Dorset.

The *St. tenuicornis Kirby* is the type of a distinct genus, called *ELENCHUS* by *Curtis*, and synonymous with his *El. Walkeri*, of which I once brushed a specimen from off some high grass near Hertford in July.

One other species, viz. *Halictophagus Curtisii*, closes the account of the ascertained British species of this singular order of insects.

## HAUSTELLATA.

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### DIPTERA.

#### CULICIDÆ.

Plate XLIII. fig. 1.

*Culex concinnus.*

CU. *Fusco-brunneus*, thorace fusco vittato, abdomine angulis 5-que albis, femoribus basi subtus albido. (Long. Corp.  $2\frac{1}{2}$  lin.)

CU. *concinnus*, Steph. Catal. No. 7650.

Deep fuscous-brown: thorax with a broad longitudinal fuscous streak; abdomen with 5 white bands; and with triangular spots of the same on each side beneath; pleuræ also dotted with white; legs fuscous, with the base of the femora beneath whitish: wings pale fuscous, iridescent, spotless; halteres lurid-ochreous.

Found in July, in Scotland.

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#### TIPULIDÆ.

Plate XLII. fig. 2.

*Chironomus viridulus*. ♂

CH. *Viridis*, thorace vittis obscuris; alis hyalinis puncto nigro. (Long. Corp.  $2\frac{1}{2}$  lin.)

Tip. *viridula*, Fabricius—Ch. *viridulus*, Steph. Cat. No. 7686.

Bright green: thorax with obscure brownish streaks: legs very pale yellowish-green, with the tips of the femora, tibiæ, and joints of the tarsi black; wings hyaline, with a faint black dot.

A very pretty and abundant species of this numerous genus, which contains above 100 indigenous species.



## Plate XLII. fig. 1.

*Corethra plumicornis.*

Co. *Ochraceo-fusca*, *thorace vittâ laterali pedibusque albidis.* (Long. Corp.  $2\frac{1}{2}$ — $3\frac{1}{4}$  lin.)

Ch. *plumicornis*, *Fabricius*.—*Steph. Catal. No. 7655.*

Ochreous-brown; pilose, thorax darker on the back, the sides each with a broad white streak; abdomen ochreous-brown, the edges of the segments pale; legs ochreous-white; wings hyaline; halteres white: antennæ brown, with ochreous-brown hairs.

Common about Ripley, in June and July, in marshy places; found also in other parts within the metropolitan district.

## Plate XLII. fig. 3.

*Ceratopogon palustris.* ♂

Ce. *Ater*, *halteribus pedibusque piceis.* (Long. Corp.  $1\frac{1}{4}$  lin.)

Ce. *palustris*, *Latreille*.—*Steph. Catal. No. 7787.*

Deep black; thorax glossy; abdomen opaque; legs and halteres brown; wings greenish, with the nervures obscure.

Abundant in marshy places, throughout the metropolitan district, during the summer.

## Plate XLII. fig. 4.

*Diomyza pulchra?*

DI. *Atra*, *scutello concolore*; *abdomine fasciis interruptis aureis*.  
(Long. Corp.  $1\frac{1}{4}$  lin.)

Las. *pulchra*, *Meigen Dip.* vii. p. 267 ?—*Di. pulchra?* *Steph. Nomen.*  
*2d edit.*

Black; thorax opaque, and, with the scutellum, obscure and concolorous; abdomen with a broad golden or silvery band at the base, and the rest of the segments with an interrupted narrow marginal band of the same; thighs yellow; tibiæ and tarsi black; wings hyaline, anterior edges dusky.

Not common; found in the windows, occasionally, in the summer, at the Hermitage, South Lambeth.

## Plate XLIII. fig. 2.

*Eriopteryx? Stigma. ♂*

ER. ? *Cinerea*; *pedibus flavicantibus*; *alis obscuris stigmatè fuscâ*;  
*antennis nodosis, verticillato pilosis*. (Long. Corp.  $1\frac{1}{2}$  lin.)

ER. ? *Stigma*, *Steph. Nomen. 2d edit.*

Dull ash-coloured, obscure: legs yellowish, tibiæ and tarsi dusky; wings brownish, with a distinct darker stigma; antennæ densely-black, the joints very distinct and swollen, and furnished with whirls of hair.

Not very common; found, in the spring, near London; at Ripley, &c.



## Plate XLIII. fig. 3.

*Limnobia xanthoptera.*

Li. *Ferruginea*; thorace glabro, nitido, lineis duabus longitudinalibus atris; abdomine maculis dorsalibus fuscis; alis flavicantibus, lineâ transversali undulatâ atrigâque pallide fuscis. (Long. Corp. ♂ 5; ♀ 7 lin.)

Li. *xanthoptera*, Meigen.—Steph. Cat. No. 7930.

Ferruginous; head inclined, the nose and palpi dusky; thorax glabrous, shining, with two, sometimes interrupted, deep black lines, and occasionally with one or two spots of the same behind; abdomen with a trigonate brown spot on the back of each segment; tips of the thighs black; wings bright yellow, with a waved brown stripe over the transverse nervures, and one or two spots of the same hue on the margin:—or sometimes (as in the figure), the waved streak is shortened, and forms a sort of stigmal spot only.

Rather uncommon; found at Hastings, in Devonshire, and at Harrietsham, in Kent, in June.

## Plate XLIII. fig. 4.

*Symplecta? marginata.*

Sy? *Cinereo-fusca*, abdominis incisuris pallidioribus, alis fumosis, nervis saturatioribus; pedibus pilosis. (Long. Corp. 4 lin.)

Sy.? *marginata*, Steph. Nomen. 2d edit.

Dark ashy-brown; with the edges of the abdominal segments paler; legs pale brown, densely clothed with long hairs, especially the femora and tibiæ; wings dark-brown, with the nervures darker, the transverse ones edged with a deeper shade.

Not common; found occasionally in windows, in London, especially towards Burton Crescent, where I have repeatedly taken specimens.

## Plate XLIV. fig. 1.

*Bolitophila cinerea.*

Bo. *fusco-cinerea*; *alis immaculatis*; *pedibus flavicantibus*. (Long. Corp.  $2\frac{3}{4}$  lin.)

Bo. *cinerea*, *Meigen*.—*Steph. Nomen*. 2d edit.

Griseous-brown; palpi, halteres and legs pale reddish; wings slightly obscured, stigma indistinct.

Rare; taken at Camberwell, in July.

## Plate XLIV. fig. 3.

*Macrocera phalerata.*

MA. *Cerea*, *nigro maculata*, *alis fasciâ abbreviatâ apiceque fuscis*. (Long. Corp.  $2\frac{1}{2}$  lin.)

Ma. *phalerata*, *Meigen*?—*Steph. Cat.* No. 8021.

Ochreous; antennæ brown, yellowish at the base; thorax with 3 faint black stripes; abdomen with a row of black dots on each side; wings with a cloud at the base, a short broad band in the middle, and the apex brown.

Taken occasionally in woods, at Dulwich, in June and July; also at Coombe Wood.



## Plate XLIV. fig. 2.

*Mycetophila? Zenata.*

MY. ? *Flavescens*, abdominis dorso maculis quadratis magnis fuscis ; antennis crassis, ochraceis, apicibus fuscis. (Long. Corp. 2 lin.)

N. G. zonatus, *Steph. Catal. No.* 8037.

Ochreous-yellow : eyes black : thorax glabrous, and very glossy : bright ochraceous, with a faint darker line : abdomen with a large quadrate patch occupying nearly the entire surface of each segment above, and leaving a narrow belt-like space at their base : legs pale ochraceous, the tarsi rather darker.

Found at Dover, Coombe Wood, and Ripley, in June: not common.

## Plate XLIV. fig. 4.

*Mycetophila ornata.*

MY. *Fulva*, antennis fuscis, basi lutea, pedibus flavis, alis lutescentibus maculâ magnâ mediâ, aliisque minoribus antapicali fuscis. (Long. Corp. 3 lin.)

My. ornata, *Steph. Catal. No.* 8051.

Bright fulvous : eyes black : antennæ brown, their base luteous : abdomen with the margins of the segments ochreous : legs pale yellow ; wings also yellowish, with a large blackish blotch in the middle, and 3 or 4 smaller ones placed irregularly near the apex.

Taken in old gardens near London, but very rarely.

## ASILIDÆ.

Plate XLV. fig. 1.

*Dasypogon Diadema*. ♂

DA. *Niger*; abdomine punctis lateralibus obscure albidis: Mas. alis fuliginosis, pedibus nigris: Fem. abdomine fasciâ testaceâ, pedibus rufo-ferrugineis, alis sub-hyalinis. (Long. Corp. 10—11 lin.)

Da. *Diadema*, *Fabricius*—*Steph. Catal. No.* 8158.

Black, with a bluish tint: face white: 2d joint of the antennæ and base of the 3d ochreous: abdomen with faint whitish spots on each side from the 2d to the 5th segments: halteres yellowish; wings brown, with violet reflections; legs black. Female (of which sex I have not seen a British example) with the 4th and 5th segments of the abdomen, and the legs testaceous; wings slightly tinted with brown.

Found, but very rarely, in June, near Swansea, in Glamorgan-shire.

## EMPIDÆ.

Plate XLV. fig. 3.

*Hemerodromia monostigma*.

HE. *Albida*, abdomine vittâ dorsali sinuatâ nigrâ, alis hyalinis; puncto marginali nigro. (Long. Corp. 2 lin.)

He. *monostigma*, *Hoffmansegg*.—*Steph. Catal. No.* 8261.

Whitish, tinged with ochreous: front griseous: thorax dusky above; abdomen with an irregular dusky band down the back; legs pale yellow, with the terminal joint of the tarsi dusky: wings hyaline with a black marginal dot or stigma.

Not uncommon in the vicinity of London, in woody places, in May.



## DOLICHOPIDÆ.

Plate XLV. fig. 4.

*Psilopus platypterus.*

*Ps. viridi-æneus, capite albo, pedibus pallidis. Mas. alis amplis; tarsi intermediis apice atro alboque. (Long. Corp. 2½ lin.)*

*Dol. platypterus, Fabricius.—Ps. platypterus.—Steph. Catal. No. 8327.*

Brassy-green, with a griseous pile: face and front white; antennæ ochreous, the 3rd joint obscure; abdomen, with long scattered hairs; legs pale yellow, intermediate tarsi of the male with the 3rd and 4th joints white, the 5th black; hinder tibiæ sometimes with a dusky ring: wings very broad in the male.

Abundant in marshy places near London, during the summer.

## RHAGIONIDÆ.

Plate XLV. fig. 2.

*Atherix marginata.*

*AT. Atra; abdomine fasciis albis; alis fusco fasciatis; pedibus nigris. (Long. Corp. 4 lin.)*

*Bib. marginata, Fabricius.—At. marginata, Steph. Catal. No. 8389.*

Deep black; thorax clothed with a whitish pile: segments of the abdomen narrowly edged with white; legs black: wings brown with white spots.

Very rare near London; but not uncommon in the vicinity of rivers in the west of England, especially near Ashburton, in June.

## ANTHRACIDÆ.

Plate XLVI. fig. 4.

*Anthrax Pandora.*

An. *Atra*, *pubescens*, *alis fusco-nigris maculis fenestratis*; *apice marginique postico profundè sinuato-hyalinis*. (Long. Corp.  $3\frac{1}{2}$  lin.)

Ant. *Pandora*, *Fabricius?*—*Steph. Catal. No.* 8438.

Deep black, clothed with tawny metallic hairs, which become blackish on the sides and under part of the thorax: wings blackish, with the apex and hinder portion hyaline, the transparent portion deeply waved: the darkened part with several irregular hyaline spots. On the abdomen are some faint traces of interrupted silvery bands.

Taken near Dover, in July.

## STRATYOMIDÆ.

Plate XLVI. fig. 1.

*Clitellaria Ephippium.*

CL. *Nigra*; *thorace sanguineo spinâ laterali*. (Long. Corp. 4-5 lin.)

St. *Ephippium*, *Fabricius*.—Cli. *Ephippium*, *Steph. Catal. No.* 8475.

Deep black: front with two spots of white hairs: thorax blood-red, clothed with a dense pile; its sides armed with a strong spine; scutellum with two stout, sharp recurved spines: wings brown-black.

Very rare; taken in June in Coombe wood, whence I possess a fine pair.



## XYLOPHAGIDÆ.

Plate XLVI. fig. 2.

*Actina tibialis.*

Ac. *Thorace æneo-viridi; abdomine nigro; spinis scutelli pedibusque flavis; tibiis posticis clavatis, fuscis.* (Long. Corp.  $2\frac{1}{2}$  lin.)

Be. *tibialis*, Meigen.—*Steph. Catal.* No. 8488.

Metallic green; face with whitish hairs; a small white dot at the base of the antennæ; spines on the scutellum yellow; abdomen black, of the female yellow beneath; legs yellow; hinder tibiæ and tarsi thickened and brown: wings brown, stigma black.

Not very common, in hedges, within the metropolitan district.

Plate XLVI. fig. 3.

*Subula maculata.?*

Su. *Ater, thorace flavo maculato, abdominis segmentis margine flavis.* (Long. Corp. 4 lin.)

Xyl. *maculatus*, Fabricii *Ant.* 65?—*Steph. Nomen.* 2d edit.

Black; palpi and antennæ beneath tawny-yellow; thorax with its tubercles, a slender interrupted transverse line, a larger spot on each side near the insertion of the wings and the lateral margin yellow; scutellum yellow: abdomen with a large yellow spot on the sides of the second segment, and the margins of the rest also yellow; legs yellow, the tips of the hinder thighs and tibiæ, and of all the tarsi, black.

Taken in June in the New Forest, but seemingly very rare.

## SYRPHIDÆ.

Plate XLVII. fig. 1.

*Syrphus Lucorum*. ♂

SY. *Thorace nigricante, ferrugineo hirsuto; abdomine nigro, segmento 1<sup>mo</sup>. albido* ♀; *alis fasciâ demidiatâ fuscâ*: Mas. *segmento 1<sup>mo</sup>. utrinque maculâ albidâ*. (Long. Corp.  $4\frac{1}{2}$ -5 lin.)

Musca Lucorum, Linné.—Sy. maculipennis, Steph. Catal. No. 8612.

Black: face white, with a black belt: thorax with a metallic hue, and clothed with tawny hairs: scutellum reddish: abdomen of a steel-black, the basal segment of the male with a fulvous or whitish patch on each side, of the female wholly whitish, or ochreous: knees and base of the tibiæ ochreous: wings hyaline, with a large dusky spot in the middle of the costa.

Not uncommon in woods, especially in Coombe and Darenth woods, in June.

Plate XLVII. fig. 3.

*Eristalis fumipennis*.

ER. *Niger; thorace rufo hirsuto, scutello rufo, abdomine atro, antice maculis duabus ferrugineis, pedibus anterioribus tarsisque omnibus fulvis, posticis nigris, tibiis basi rufo; alis infuscatis*. (Long. Corp. 6 lin.)

Er. fumipennis, Steph. Catal. No. 8650.

Black: thorax clothed with a red pubescence: scutellum red; abdomen black, the basal segments with a large ovate rusty spot on each side, the remaining segments slightly edged with ochreous: 4 anterior legs and all the tarsi fulvous; posterior legs black, with the tibiæ red at the base; antennæ red.

I possess one specimen, but I am not aware of its locality.



## Plate XLVII. fig. 2.

*Helophilus Frutetorum.*

HE. *Thorace flavo, vittis tribus atris; abdomine atro, fasciis interruptis flavis; antennis rufis.* (Long. Corp.  $4\frac{1}{2}$ —5 lin.)

Syr. Frutetorum, *Fabricius*.—He. Frutetorum, *Steph. Catal. No.* 8664.

Head, front and antennæ tawny yellow; thorax yellow with three black streaks; scutellum brown; abdomen black, the 2nd, 3rd, and 4th segments each with an interrupted yellow streak, and a spot of the same on the dorsal edge of each, 5th segment yellow: anterior legs yellow, the base of the thighs black; hinder thighs black, with the apex yellow; tibiæ tawny, with a faint ring and the tip black.

Found in plenty in Battersea Fields in June.

## Plate XLVII. fig. 4.

*Spilomyia femorata.*

SP. *Nigra, villosa, pedibus rufis, femoribus apice fuscis.* (Long. Corp. 6 lin.)

MU. femorata, *Linné*.—Sp. femorata, *Steph. Catal. No.* 8674.

Black: face with whitish down: antennæ brown; thorax with a greenish tinge, and clothed with rusty hairs; abdomen clothed with tawny hairs; legs red, the tips of the femora brown: hinder thighs robust: wings clouded with brown.

Rare, or at least local, found in June and July, in the New Forest.

## CONOPIDÆ.

Plate XLVIII. fig. 1.

*Zodion cinereum.*

*Zo. cinereum*, *facie flavâ, antennis nigris apice rufis.* (Long. Corp. 3 lin.)

*Myo. cinerea*, *Fabricius*.—*Zo. cinereum*, *Steph. Catal. No. 8704.*

Ash-coloured: face pale yellow; forehead and antennæ at the apex dull red; thorax with dusky hairs; abdomen with a few dusky spots, its apex black: legs brownish-ash; wings slightly yellowish.

Not common, taken in June, at Darenth wood.

Plate XLVIII. fig. 3.

*Myopa testacea.*

*My. Abdomine testaceo cinereo maculato; fronte fuscâ; alis fuscâ, medio puncto nigro.* (Long. Corp. 3—3½ lin.)

*Co. testaceus*, *Linné*.—*My. testaceus*, *Steph. Catal. No. 8710.*

Testaceous: face with a brown spot on each side, towards the eyes, beneath the antennæ; abdomen testaceous, spotted with ash-colour; legs testaceous, ringed with brown; wings brownish, with a black spot in the first hinder cell.

Found in June, at Richmond.



## ÆSTRIDÆ.

Plate XLVIII. fig. 4.

*Gasterophilus salutiferus*. ♀

GA. *Ater, thorace fulvescente, abdomine atro basi albo (postice in mare rufo), femoribus atris, barbatis; alis immaculatis, costâ flavescente.* (Long. Corp. 5 lin.)

Æs. *salutiferus, Clark.*—Ga. *salutiferus, Steph. Catal. No. 8727.*

Black: head clothed with bright tawny hairs; thorax stout, clothed with pale orange pubescence, with a blackish spot at the base of the wings, most evident in the male: abdomen black, thickly clothed with pale yellow pubescence, on the basal segment, with black on the 2nd, and with pale orange on the remainder in the *male*, but with ash-coloured in the female; legs black, thighs covered with long black hairs; wings not spotted, but with the base and outer margin yellowish-brown.

Taken at Coombe wood, in July.

## MUSCIDÆ.

Plate XLVIII. fig. 2.

*Gonia auriceps*.

Go. *thorace nigricante; abdomine rufo, vittæ dorsali, anoque nigris; maculis albis; capite fulvo.* (Long. Corp. 4 lin.)

Gon. *auriceps, Meigen.*—*Steph. Catal. No. 8737.*

Head tawny-red, with a golden pile; antennæ deep brown, the second joint yellow; palpi testaceous; thorax dusky, with 4 black stripes, the 2 intermediate shortest; abdomen red, its tip and a dorsal streak black, its sides with irregular white blotches; scales white; legs black.

Not common; taken at Coombe and Darenth wood, in the early part of the summer.

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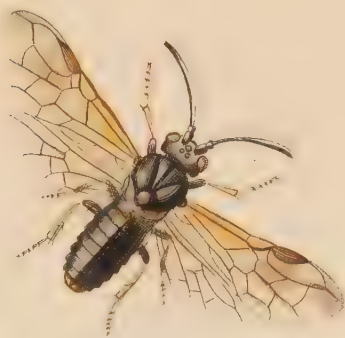




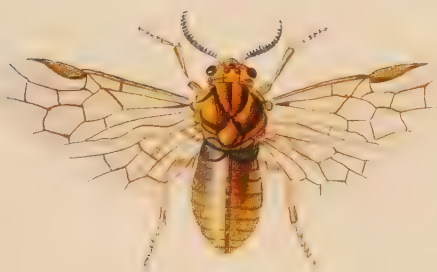
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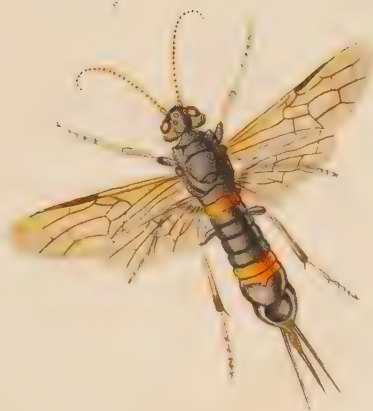


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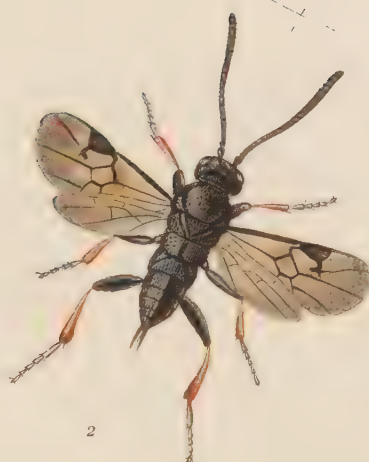
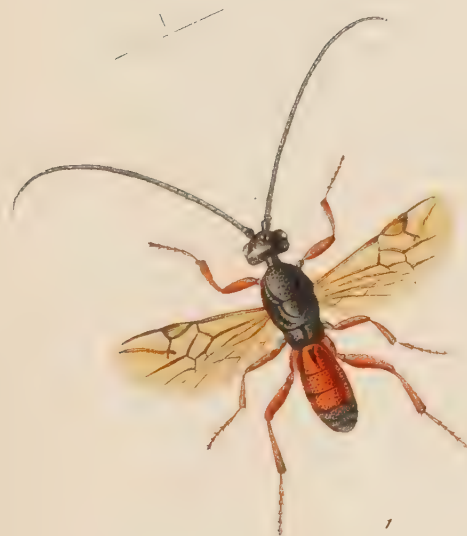
























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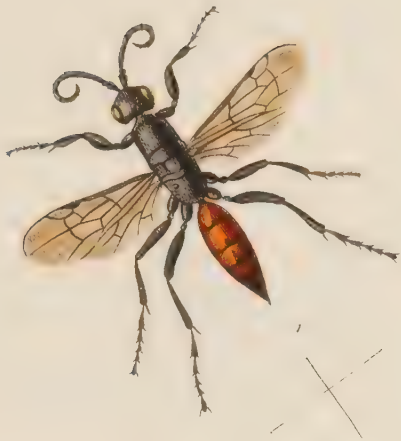






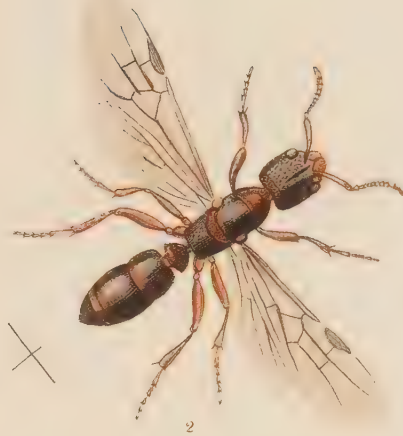












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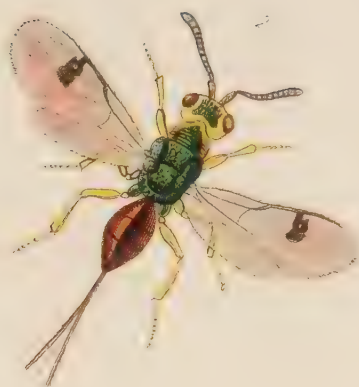
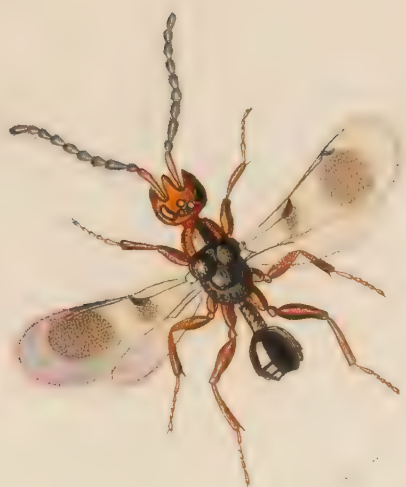






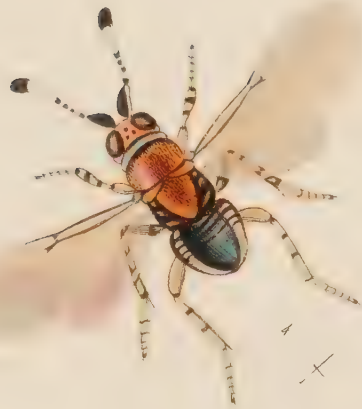


















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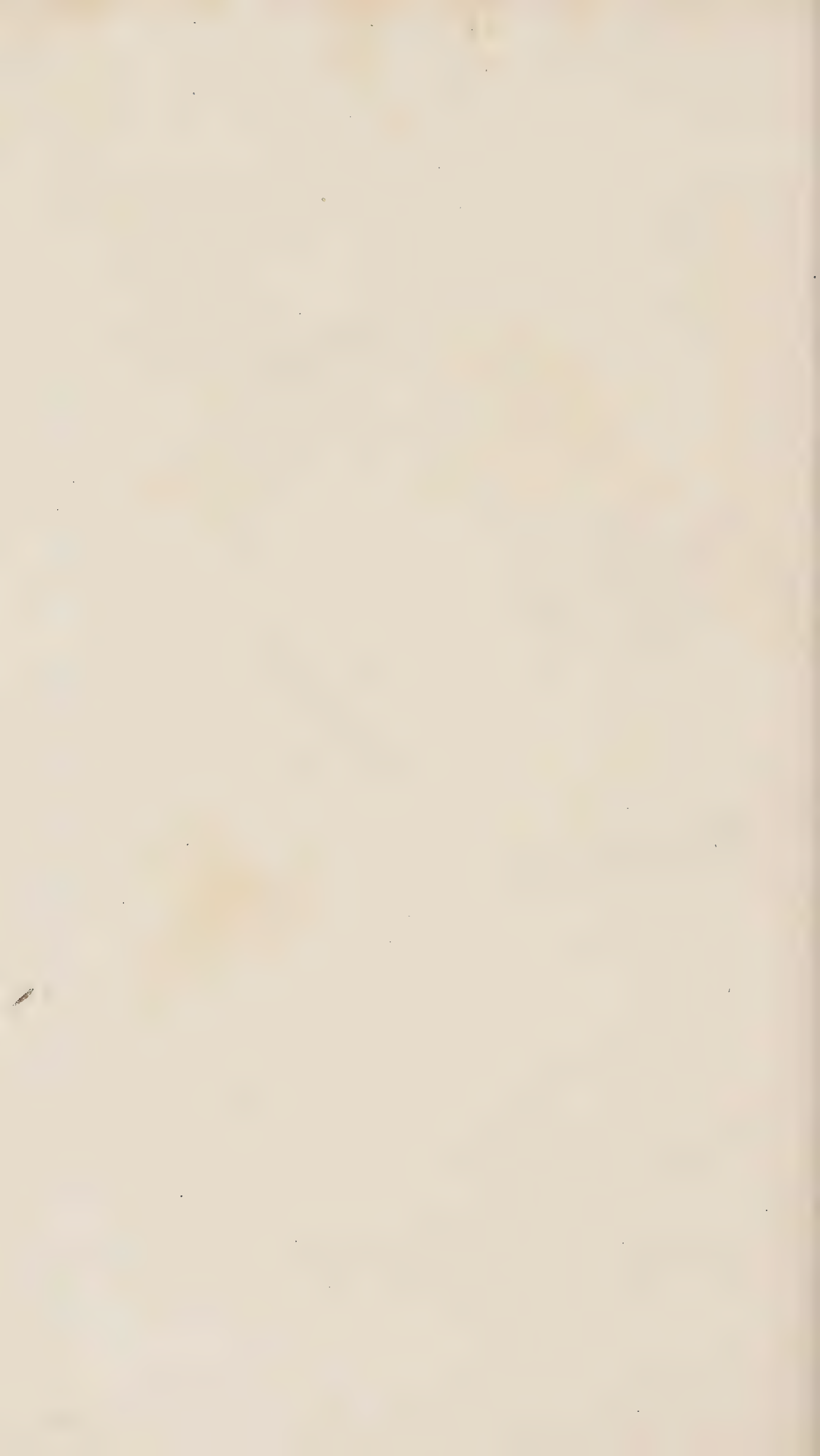








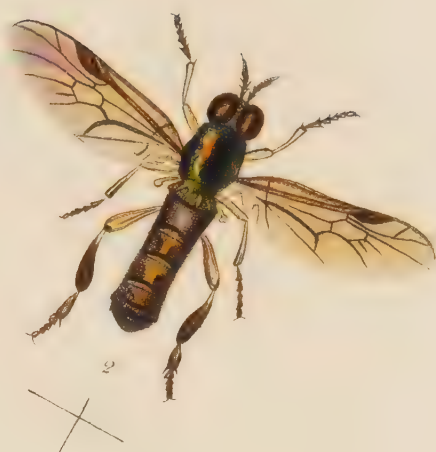












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